ComputerWeekly

Thursday, January 7, 1982

Get a head start with Argus 700

Ther also demand major

to prevent any more comes

copies and the equipments

make them, and an account

profits generated from he we

the illicitly copied software.

Alicropro and Digital Rez

products based on CPM in and data handling inder Wordstar, Datastar, Superer

Supplier and ITT dispute rights

liy Donald Kennett

THE future of one of the key elements in ITT's office automation strategy los been thrown into doubt, following a dispute be-tween the giant telecommunicstions company and the tiny Lon-don-based micro and viewdata specialist Guestel.

In Décember last year ITT lounched a morketing campaign based on Guestel's TDI telephone dota interface, claiming to have developed it itself. The product enables any telephone extension to control a remote microcomputer, and the micro in turn to make calls via a PABX.

ITT and Guesrel have been negotiating the deal over the last 18 months and it has become apparent that the TDI can help ITT to sell its Unimat computer-controlled analogue private telephone exchanges. The first joatallation uses the table. lotion was due to be made at Trust House Forte's Post House Hotel at Heathrow last week, where it was to form the basis of an early morning call service for guests.

The TDI's bosic function is to translate the dual-tone aignals from a pushbutton telephone into computer-readable character codes and vice versa, but it can also control external devices, such os cassette recorders, and the latest versions contain a speech synthe-

vice exclusively to users of its Uni-mat PABX, thereby addressing a potential market for only 1,000 to 1,500 systems.

If the deal falls through, Guestel is coolident of its ability to tackle the whole market independently. But it is keeping the latest versions of the device out of ITT's hands.



Govt £9 million aid for 30 IT centres

Switchon

THE first clutch of information technology centres, announced last luly, is to receive £9 million of overnment money over the next two years. The centres will provide training in electronic assembly, computing and basic information technology skills for the young tunemaloused.

There are now 30 centres planned - 10 more than envisaged in July. Each will get around £300,000-£55,000 from the Department of lodustry and most of the remainder from the Manpower

Services Commissioo.
The distribution of centres shows "a deliberate bias towards the inner city areas" according to

DECTerminals

Ex slock at the right

price . filled with a plug and ready to go it makes sonse to talk

turnipals with Rapid Recall For yours Britain's No.1

Microcomputer Specialists now tho may force in ferminals.

Tapid Recall for DECTerminals

Distributor

Scotland will have centres in Dundee and Inverciydo and Wales ooe in Clwyd. A wider geographical spread is toped for in an intended extension of the scheme, again jointly spon-sored by the Dol and MSC. Baker

and Portamouth will have centres and there will be five in Inner Lon-

envisage a programme that could aim to reach a total of about 100 centres in the next year or 50."

Apart from government aid, each centre will be supported by local sponsors such as local authorities or high technology companies and will include small workship. Baker described the Dol hands a searth of the ground, hoping that after two years there would be sufficient income from the workshop facilities for further direct Dol support to be unnecessary.

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money. Baker said they would give staff and in some cases equipment, but most important would be their Kenneth Baker.
The North-east will have five, at Newcastle, Gateshead, Sunderland, Leeds and Sheffield, as will have five.

Merseyside. Others planned for the North-west are in Manchester, Salford and Warrington.

The West Midlands will have centres in Birmingham, Coventry, Telford and Walsall, and the East Midlands one in Leicester. Bristol and Postsmioush will have centres.

The ITECs will be inndelled un the Notting Dale Technology Centre in West London, which has impressed Baker with its success in Iraining young people with no for-mal educational qualifications in-basic information technology

There will be 30 to 40 students a year through each centre with at least one staff member for every

The trainees will be between 16 and 19 and unemployed. They will receive the standard Youth Oppor-

He did of exclude future direct.

Support if it should be needed.

The role of the sponsoring companies, which for the first centres include IBM, GEC, Perrant, Cable and Wireless, and Systime, will not primarily be to provide among centres, he said.



US copyright law put to the test

by Claire Gooding
SOFTWARE copyright law in the major case involving Digital Research lne, the originator of the widely used microcomputer operating system CPM. Danages could smuont to well over a miliiun dollars if infringement of

copyright can be proved. Digital Research has joined with licropru International to file a copyright infringement lawsuit against Data Equipment and ps parent Datoforce International. The suit concerns an alleged man-thorised copying of software involving CP/M 2.2 and Meropros Wordstar word processing park-uge. It will be heard before the US Federal District Court of San

Digital Research, where was based on the CPM ger. system, recently widered in The plaintiffs are asking for purniffice and exemplair damages of a million dullars, plus rights one who tried to copylispak of operations he busing Com

t'akstar.

Embargo effect will be slip

on high technology exports to the Soviet Uning, announced in 183ponse to the imposition of martial rule in Pulsad, will apparently have only minimal effect on (18

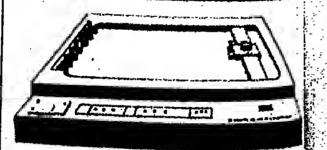
emputer companies.

US companies have been barrest from selling high technology pto ducis to Sorier bloc comunies by The first of the centres, at Gatesheed, Newcastle, Moss Sido in Manchester and Haritgey in North London, will open this month, according to Baker.

Iront selling night technology produces be some time. For example, but year thad policy, next if some time. For example, but year thad policy, next if some time and a Sperry Universal to the same time and the same time. TASS was cancelled but a specific to Soviet bloc coast.

PRESIDENT Reagan's conhaige little business with Seat

Samlady, Rumughs 64 Detroit does not expedite. barges to affect the company,



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Gestetner agreement has foundered

remains

AGREEMENT between Gestetner

and Nexos to rescue the aiting

and Logica bad agreed the future of the N2200 word processor. ICL

is to buy the assets of Nexos, mostly unsold 2200s, at net book value.

The agreement means that ICL

has gained a much-needed word

Would-be purchaser Gestetner,

which signed heads of agreement to buy Nexos with the BTG lo

gauge user satisfaction across a wide range of manufacturers

machines: It is spoosored in the UK by Computer Weekly and based on a questionnaire designed by the Datapto Research Corporation. Some 960 users were sur-

eved late last year in the second of

Cabinet and unions meet on jobs

A KEY meeting between the Cab-lnet and Civil Service unions is to be held next week about an agree-

Negotiations covering consulta-tion, quality of jobs, health and



taken two years, but exact terms of Alastair Graham, general secretary of the Civil and Public Services

IT union man

processor for its range, and adds another third party deal to mana-ging director Robb Wilmot's folio of marketing deals. The company will be supplied by Logica VTS, manufacturer of the N2200. THE official trade union represen-In a related announcement, the BTG also revealed that Nexos is to lose its facsimile business to a new tative on the national steering com-mittee of IT 82 is to be Tim Webb, national officer with the Associagroup to be formed by BTG and Muirhead. tion of Scientific, Technical, and Managerial Staffs. Webb joins 12 other members from various fields which include the arts, education, media, local government, medical, financial, government, and indus-November, angrily broke off its deal this week, Jonathan Ges-tetner, juint chairman, accused the BTG of having failed to meet its

Software stake

US instrumeotation and hardware A spokesman at Gestetner said the agreem is called for the ETG to deliver all the manufacturing and distribution rights to the Nexos 2200. company Genrad has bought 25% of UK software house Cirrus. The or the software figure Circus. The agreement gives Genrad the right to acquire the remaining 75% which is currently partly owned by members of the American and UK.

ITT launch

III. Enropean replacement for its Apple II-based 2020 microcomputer, the 3030, is to be released in the UK hext week. It was launebed in France and Ger-many in September last week and runs the GP/M operation system.

Ousting modems

UP to 20% of modem uses could be replaced before System X renders them obsolete, says British Telecom. They will be superseded by Kilostream, the latest data network service. BT has also and nounced links with IBM-backed Satellite Business Systems for services. Satellite Business Systems for services from the UK, Story, page 3.

INSIDE THIS WEEK'S ISSUE

New Year Cobol quiz.....14

How users rate big firms

This meant that the Logica VTS BTG failed to meet its commit

ICL, NCR and Burroughs get low ratings, while IBM scores relatively highly in the 1981 Computer Weekly/Datapro user satisfaction survey.

NCR also gets mediocre ratings, while support problems are still a milistone around the neck of Burroughs, However, the survey also shows most users' expectations as having been broadly fulfilled. The highest ratings in the

Parent.
The BTG, ss the former
National Enterprise Board, made
no initial commitment to fund
Nexos to the tune ni £45 million,
later cut back to £35 million.

The final speed on Nexos is now estimated of £28 million and most

of this seems likely to be lost, Last

year Nexos lost £4.7 million on a

turnover of £4.4 million.

minicomputer category go to Hew-lett-Packard, followed by DEC,

BM into rebotics

Micro News Company News Glib's Mythodology

Suppliers lobby MPs Software File

Jobs: Pages 26/53

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Thursday, January 14, 1982 Number 791

ICL gets of Nexos have had to pass to Gestetner. According to the spokesman, the BTG bad provided documents which seemed to show that the BTG had the power to include Logica VTS in the deal up to and including the signing of the agreement in November. According to Gestetner, the BTG was unable subsequently to persuade Logica to part with the manufacturing company, which is SERLE . . . Spreading the word that computers are all around us

Scene set for battle of IBM and AT&T

by Howard Karten
and Boris Sedacea
BATTLE has begun between
IBM and AT&T over each
other's markets following a declaion last week by the US governmont to drop so anti-trust sult
against IBM and to settle with
AT&T (story page 2).

AT&T wos previously restricted as to the amount of intelligence or processing power which
it could add to its basic data
transmission services. It is now
at the top of IBM's list of major
threots. The anti-trust case look
only second place.

threots. The anti-trust case look only second place.

The US government is estimated to have spent nearly \$14 million on the case against IBM million on the case against IBM which charged the company with monopolising the general purpose computer market, and sought to break up IBM into separate companies which would compete against each other.

The case was filed in 1969, on the last day of the Johnson administration. In a statement is sued in New York, John Opel, IBM's president, said:

"In effect the Justice Department now has affirmed, as have many Federal Courts, what we have contended from the start: our industry is healthy and com-

our industry is healthy and com-

our industry is healthy and com-petitive, and IBM has not vio-lated the anti-trust laws."

At a Washington news confer-ence, William Baxter, as instant attorney-general in charge of the anti-trust division, exclained that the decision to drop the case was made: because it had originally been based on "filmsy" evidence. these annual user satisfaction tests.

ICL's 'entry-level 2946 mainframe gets a particularly low rating
with four users out of six saying

Full survey report pages 18/19.

the decision to drop the made: because 'that been based on "filmsy"

Full survey report pages 18/19.

TV series startswithout hardware

standing orders by mid-March.

The bulk of the machines de-

livered so far have gone to schools, for showing of the TV series on Manday afternoons. A morning

WITH the start this week of the BBC's television series for its computer literacy project — baldly titled "The Computer Programme" — comes hope for the thousands who are waiting for the But the TV series is intended to be more than a tutorial on the Acorn/BBC microcolopuler, and the BBC computer literacy project to be more than the TV series.

Acorn/BBC bardwore to go with it.

Over 10,000 units hove been ordered, but nnly 300 delivered, according to Acorn director Chris Curry. Low yields of an uncommitted logic array chip from Ferranti have caused the backlog, but Curry says the problems have been Dooald Gratton, BBC controlle of educational broadcasting, sees it as a project 'with something for everyone'. It covers, omong other things, the TV programmes. books, a correspondence course and telesoftware. Curry says the problems have been overcome and the ULA will now be delivered at a rate of 1,500 a week. He hopes this will shift out-Presenter Chris Serie's introduc-

tion is: "Don't expect the computer revolution to happen tomorrow, it's going on all around us."
The message for would-be owners of the BBC micro is similar: don't expect it tomorrow, but it's going on all around you.

WP SYSTEMS FOR THE NEXT DECADE.

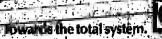
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Or contact: Peter Evans, Marketing Director, Data Logic Limited; 29 Maryletsine Road, NW1 5/X.



AT&T will ditch local phone companies to focus on computers

and other advanced data commufollows from last week's announcement that a settlement has been reached in the seven-year-old anti- ment, which is formerly called a irusi suit brought about by the consent decree and replaces the

be that AT&T will divest itself of its 22 wholly-owned local phone

But the ruling leaves the way clear for Baby Bell, AT&T's newly set up data processing subsidiary to move further into commuterised information services such as

AT&T consists of the Long-Lines Department which provides king distance service; Bell Labs, its R&D erm; Westero Electric, the manufacturing arm; and some current agreement is thought to be 23 other coorpanies ilroughout the biggest anti-trust settlement

by Howard Kartco
US which provide local service to
us relephone giant AT&T has
been freed to engage in videotex

US which provide local service to
subscribers. There are also more
than 1,500 telephone companies throughout the country, which nications services unregulated by range in size from a few hundred

Justice Department.

The most immediate effect will bistoric consent decree reached in 1956, AT&T has six months to file toric consent decree reached in

The full effect of rhe agreement will not be known for several months, as lawyers for firms in the computer and related industries for implications and opportunities.
This week most competing

firms remained uncertain about the ner effect on their business. The US government filed its suit seven years ago, alleging that the size of the \$120 billion company tended to stifle competition. The

AT&T agreed to the settlement partly out of concern about legislation currently pending in the Congress that would have been tions Rewrite Act which passed the

tives, Representative Timothy Wirth of Colorado had introduced an even more restrictive Rill.

For example, where will the R&D sation of phone system practices

Certainly the net effect of this crease competition sod possibly innovation, since AT&T will no longer bave the formidable clout it once used to forestall any de-

● AT&T takeover in Ircland?

Systems house to promote viewdata as comms medium

VIEWDATA'S potential as a com-munications medium rather than an information retrieval facility has view of Rostronics and AM Programmers, a micro systems house and software house, which last week launched a system designed

to help change the situation.

Called Lincs (Local and Internaioosl Networked Communicaions System), It is built around the Z80-based Micromatloo Mariner from the US, for which London-based Rostronica is the main UK agent. Rostronics has built a £400

viewdata interface which plugs into the Mariner's standard \$100

The company has also written routines in machine code to carry out functions such as dialling, checking for noise oo the line, by Kevin Cahill
A SMALL satellite navigation
system based on a Z80 micropro-

sending or retrieving pages of in-formation, and manipulating their

Information can be displayed on a VDU for interaction with a user's

AMP is offering to produce ap-plications capable of interacting with viewdata terminals, the Prestel database and other computer-

AMP consultant Dick Rend says inquiry system for libraries which

The Mariner then calls a large database of book locations and returns the result to the library's

pronunted by British Telecom it-self," says Read. "We feel the big future is for data transmission vir Prestel and in a very short time international communications will be possible, because the various national viewdata systems will be inked together.

"Prestel's Boston centre will open up the route into the US. You will be shie to put in informa-tion in the UK and pick it up a local call rates from the US."

AMP will be Rostronics' man distributor for the Lines system in London and the Home Countin. It will sell at £6,500 for a singleuser system, plus the cost of cus-

standards for protocols, languages, applications and communications," sbc said.

Coniglisro believes there are firm indications that IBM will enter robotics soon.

"Several mootba ago IBM booked a stand for an upcoming robotics exhibition in Detroit in March and it was believed they were going to demonstrate a number of robots. Although IBM has now cancelled the booking it is still widely believed they will show

dustry is a Tower of Babel. There are no common standards for interfacing, no suitable software packages, and little by way of com-

munications devices.

"IBM is looking to do more than inst selling robots. IBM's entry

into the market would give the

robotica industry a certain degree of legitimacy and would provide it with the wherewithal to set the

off some robots there.
"If IBM entered the market

by Boris Sedacca
IBM is likely to venture into robotica this year, and could soon be in a position to rail the shote in this embryonic industry.

This is the view of Laura Conigliaro, a robotics expert with Wall arready analyst Bache.

control of it. But one sign has to gauge the level of commitment which a company puts into a venture and not just its financial strength. For instance, General Electric entered the minicomputer market some years ago without sufficient commitment and had to pull out after a while," she added.

teroational standard) will be offered. Using compression techniques it will then be possible 10

on to 30 speech channels, instead

of 1,000 speech channels using

with Japan too.
The links with SBS are separate from the Satstream satellite ser-

vices already planoed to provide

the European Communications Satellite and the French satellite

Telecom 1 from the eod of next

George Jefferson announced the

agreement with SBS as BT cele-

brated the installation of 100,000 miles of digital links in the UK and

IBM into robotics

says US analyst

Conigliaro also poiots to compe titive pressures form Japao, which has the highest robot population in the world, compelling IBM to

"Hitachi already competes with 1BM in the computer market and it has made an early entry into robotics. The area of manufacture ing automatioo is virtually un scratched and many companies other than IBM are planning to get

has a good background in instru-mentation, and Digital (DEC probably sells more minicomput-ers into factories than any other

include. Texas Instrument Westinghouse and Bendix, accord

She added that robotics was jus a standard-bearer for a wider com-puter-aided manufacturing (CAM)

Ferranti scoops major military contract

Transatlantic

link-up for

BRITISH TELECOM has signed an agreement with Satellite Busi-

ness Systems in the US-to provide

services between the US and the

The services would include video teleconferencing, facsimile

megabits per second. They will be

Europe as negotiations are com-

pleted and the necessary convert-

ers are designed to cope with dif-fering atandards.

SBS is waiting for authorisa-tion by the US Federal Commu-

an international carrier. Services

could start by the end of the year if the FCC gives the go-ahead by the

summer,
Initially, digital circuits with speeds from 2.4 kilobits per second to 56Kbps will be offered,

BT and SBS

by David Craver

FERRANTI Computer Systems has triumphed over Marconi and Plessey in winning a prestigious contract to develop and manufac-ture a VLSI version of the military computer range used by the Ministry of Defence. The computer, the Argus M700, was initially developed by Ferranti in conjunction with MoD as an outgrowth of its civil Argus 700 series. But as part of the original contract the MoD ascurated a licence to sub-contract. secured a licence to sub-contract mannfacture of the M700 to other companies, which set up the com-petitive tender on the VLSI ver-

John Neale, manager of computer marketing at Bracknell, said:
"We won the day on the basis of our technology." The new

While there will be no direct apin-off for the commercial Argus 700, Neale says the military and commercial divisions are begin-

JEFFERSON . . . Celebrating 100,000 miles of digital links

Stresm group of digital services.

Transmission department director Dr Sidney O'Hara said the links, which had been installed on

a piecenteal basis, had now reached the stage that they could all be connected together to extend the digital leased circuit facilities provided by the London overlay network to reach the rest of the

Investment in digital plant accounted for only £75,000 of the £2,000 million total programme

the integrated services digital network based oo System X, which will have its first pilot service operation in London with 250 cnsyear and reach £250 million a year by 1985, when the rate of installation will be 100,000 miles of digital tomers from the end of next year. circuits each year.
The X-Stream banner covers

Switchstream, Megastream, Kilostream and Satstream. Switchstream 1 is the new name for PSS, the packet switched ser-vice which opened last summer and is to be linked to the two-year-

old international version next

French companies incressed their share from 58 per cent to 63.1 per cent in 1981, and overall the public sector installed 23 per cent more computers last year thau in CII-Hooeywell Bull's share of

the market rose from 41.8 to 42.5 per cent. IBM's share fell from 23.3 to 19.4 per cent. The report shows that the Civil

Public sector

share too

small,

say French

rench-made computers in

France's publicly-owned corporations and government offices last year, the share is still too

small, says an official report re-leased in Paris.

Service is now operating 4,224 computers valued at over 50,000 francs (£5,000) each. This shows an increase of 17.8 per cent over the number in use a yesr ago.

Nationalised companies are Megastream is the Looder overlay network which started up last September with the connec-tion of the Chase Manhatten Bank and which will be extended to pro-

operating 4,810 computers, representing an improvement of 28. per cent. These increases compare with a rise of 15.5 per cent io Civi Service computers between 1979 and 1980 and of 13.7 per ceor by publicly-owned firms.

Telesoftware gets Prestel boost by Dooald Kenoett PRESTEL is making a bid to boost the market for relesoftware, with telesoftware loading routines Means of collecting telesoftware from Prestel have existed for some with telesoftware loading routines.

the transmission of programs over the telephone from the Prestel da-

uon providers, micro dealers and Prestel have led Tangerine Com-puter Systems to modify the deign of its £170 Microtantel dard RS232 interface for connection to micros, instead of the cassette interface it previously used. Prestel's telesoftwere product maoager Tony Sweet has backed

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he is commissioning for as many

the three biggest sellers - the Apple II, Commodore Pet and Tandy TRS80 - but be hapes to do it much cheaper by involving

clubs and user groups and only if this falls will he resort to saftware houses to meet his target dato of the end of March.

market to the point where it oeeds no further support from Prestel.

good idea to use the format developed by the Council for Educa-

Rostronics director John Pen-dreich says it is the first \$100-based viewdata interface to handle £4m orders at show

out of the reach of most hobbyists and many schools. Sweet believes that the Microtantel, supported by

One recent prablem was the abence of a standard format for Basic programs on Prestel. There ls oow wide agreement that it is a

cessor and costlog less than

£1,000, captured over £4 million worth of orders, 50% from over-seas on the first day of the Boat Show in London.

The device, called the Sat Nav

402, is produced entirely in Britain by Walkers Marine Instrument of

The device aims to give the small yacht positioning information based on transmissions from

signals all the way from the tele-

existing programs, or in viewdata format on a colour television via a

Development of the system has been taken up by Teddingtonbased AM Programmers, already a distributor of Mariner micros for Rostronics, which has added input and output routines in Basic designed to provide a more readily usable ioterface fur programmers.

ssed systems automatically. uses Prestel as the medium

their requests to locate books.

Other areas will he served by lostronics' network of 12 dealers. Future enhancements to the iewduta board are plaoned to in-

facilities for twn-way 1,200 bits-per-second half-dupics transmisslon and possibly o circuit to coable information to be collected from broadcast teletext services, such as the BBC's Ceefax and the

SERC to aid software technology transfer

by Maggle McLening THE "software crisis" is to be at-

tacked by a five-year Science and Engineering Research Council programme which aims to ease the two-way transfer of software tech-nology between industry and aca-demia. This is in addition to the Distributed Processing De-

prove the academic software technology base and to stimulate more academic research. As a first step towards a common software base, SERC'a Computing and Communications Sub-committee bas

operating system.

The ICL Perq workstation has

bridge Rings, SRCnet and British Telecom's Packet Switching Sernator, Rob Witty of the Council's Rutherford Appleton Laboratory. adopted Pascal and the Unix

has been appointed. Although the common base will be preferred foundation for SERC-supported. not imply rigid standardisation, and it is expected to evolve further.

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mioroprocessor, to be eailed The civil Argus 700 is used pri-M700/40, uses multi-layer, thick marily for process control and traf-film hybrid technology to connect file control applications.

four uncommitted logic arrays, Based on Perranti Electronica new Fab-2 process, these provide total of 12,800 gates with typic gate delays down to 2.5 nanose

Neale says the aim is to have prototype by September 1983, and production at the end of 1983 and into 1984. Perranti la planning production of at least 1,000 a year for the UK market, and is boping for several thousand, be adda.

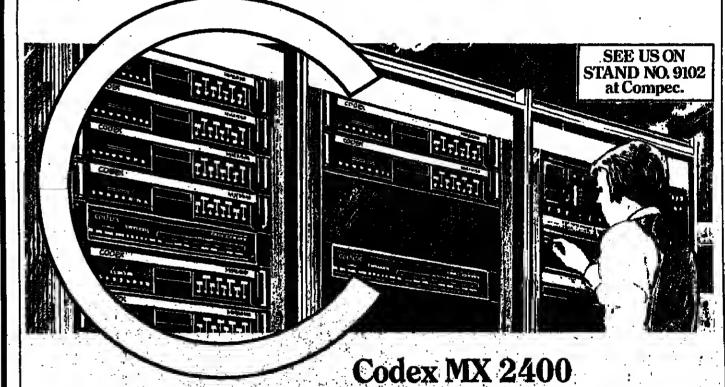
ning to collaborate more, and the MoD codtract is indicative of Fer ranti's standing in terms of state-of-the-art technology.

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rween computers, digital PABXs

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going to US bureaux

Govt under fire for

Major EEC study goes to **UKconsultancy**

MAKING a good start to Information Technology Year, a UK company has won a major EEC coosultancy contract that will lead to an investment of tens of millions of pounds in communications equipment between next year and 1990.

Langton Information Systems has won the contract, wurth 180,000, which is for the next stage of the European Commission's plans to build a private communications network, called Inais, to link the institutions of the European Community and relevant organisations in member

Team leader Graham Taylor said that Langton was the only company to hid for the contract as part of a multi-national consortium, despite the Commission's publicly stated preference for them. (Multinational companies on their own do not count.)

There were great difficulties in setting up and running these consortia, said Taylor, particularly when they were consultancies, because consultancies tended to "a pretty confident breed".

"But we know that the consortium opproach won it," he added. Langton will team up with Danet in West Germany and a company in France which has yet to be confirmed. In the UK, it will

The consultants' report is to be lows a one-year atudy by Pactel (on its own) into the basic communications requirements of the Commis-sion, and a six-month study by Langton into the probable development of teletex text commu-

GEC puts

robot on

US market

by Boria Sedaces
GEC'a new factory automation
division is about to launch its
Comparm paint-spraying robot
into the US market as part of its

two-pronged strategy to compete with what it regards as the present world leaders in robotics, General Electric in the US and Hitachi in

Japan.

According to Alan Davis, director and general manager of GEC's Factory Automation Systems Technology (FAST) division, the group has been in automation for a number of years through GEC Ricctrical Projects involvement in the steel and process industries, and now wants to extend its operations to manufacturing in general.

tions to manufacturing in general.

"The first stage of our strategy ls product competition on an inter-national acale with our Comparin

robot. We are currently setting

Pactel's report has been presen-ted but has yet to be formally occepted and therefore published, while Langton's teletex report is to be presented this month.

The Insia report is to deal with functional aspects of civil ser-vants' work, one third of it on the requirements for storing, retrieving, broadcasting and exchanging text, taking account of the need to work in seven or more apoken languages, and the remainder provid-ing an implementation strategy to meet those requirements, with a list of applications and their asso-

the dominant subject of the study, with teletex and viewdam attracting particular attention as transmission media, while facsimile transmission and teleconferencing will be of secondary interest.

When the report is accepted, the Commission will start buying equipment and placing contracts to implement various systems.

Between this year and 1985, teletex services are due to start up all over Europe and one of the main problem areas will be in-

terconnecting them. Sweden, which has become the first country to launch a pilot teletex service and which plans a full service by the end of the year, is basing its service on a circuit-awltched data network. Germany, another pioneer in the development of teletex, and Italy, are

Is due to atart in April, will use both the telephone network and the PSS packet awitched network, while the remainder of Europe i expected to used packet switched



Dr John Nunn (right) and International Master David Levy ponder over the new solutions to an old Russian chess problem, which were exposed by the SciSys chess computer.

Chess champs put in shade

by Philip Hunter

THE current world champion of lem bas been published commsrelal chess computera splashed mud on the boots of eminent international chess experts when it recently exposed a flaw in

a prize-winning chess competition.
It found that the problem set by leading Soviet chess problem expert Leonid Zagorujko, which won first prize in a competition set in 1972, has more than one solu-

Chess problems must have just one solution to win such a competition, and a distinguished panel of judges was unable to find a solution other than that proposed by Zagorujko himself at the time.

worldwide, as many as three solu-tions have been revealed by the computer, Chess Champion Mark V, sold by SciSys Computer of

The embarrassing exposure hap-pened at a man versus machine chess problem-solving contest at in, aponsored by SciSys where Mark V was competing against International Master John Nunn, who is the reigning British

chesa problem-solving cha Chess computers are ideal for problem-solving since their inability to look more than a few moves ahead is not normally exposed.

Fault-finder Mark V was faster than Nunn on four of the other five problems set

computer chess expert and Inter-national Master David Levy, who is joint director of Philidor Soft-ware which is dedicated to compiling cheas programs of ever greater

to send telexes to groups of up to.
40 addreasees by typing a single four-digit code. Up to 250 groups can be defined and short codes can also be used to dial to a further 749 frequently-used telex numbers.

Mark V was programmed by

In common with other commercially available dedicated chess computers, Mark V can play 12
games simultaneously. On this
point it has yet to catch up with
humans. Former world champion
Alekhine once played 60 aimultaneous games blindfoid. He won
59 of them and drew one.

Ulster rates system 'a milestone for CAP'

A BIG turnkey project with the government to supply a rates col-lection system in Northern Ireland has given impetus to efforts by UK

The order, which has an estimated value of £1 million, also provides some evidence that the government's buying arm, the Central Computer and Telecommunications Agency, is turning more towards aystems bouses to supply its computer agency.

more towards systems bouses to supply its computing requirements.

For CAP, the system will mark "something of a milestone as a government contractor," says Ken Crews, manager of Government Business Group. He admits that until oow CAP has not pressed for government business in turnkey systems, with the emphasis going oo consultancy services.

under CICS communications software and DL/1 database management system. Installation in Belfast will be in August with operations planned for the 1983 financial year.

The other major bidder for the contract, which was advertised in the EEC Journal, is believed to have been ICL. Crews says CAP could have done the job on ICL equipment; but he was not too happy with the ICL site matter. mational acade with our Comparing fourselved up to market the system in the US.

"Our main markets will be overless as gather than in the UK in the case of the paint-aprayer, and we have already begun marketing it in Germany. The US and Scandinavia will follow," he said.

The compary will also mush the robot into home markets to allow the Ritish, medianical Handling and machine tool industries in enhance its products, Devisabiled.

The second stage is fo compete for large turnley projects at home General Blectric in the US and Hingshi up a page fare during the for many competitors in factory automation at the important purpose of the parket too can produce, all accountant's package, which can produce full account and system and has added to the many competitors in factory automation at the important purpose of the interior functional is big and I do not expect that the interior will be a parket to the parket to the interior will be a parket to the interior will be a parket to the park

oo consultancy services.

But Crews says the government terest in turnksy systems.

A spokesman for the CCTA comments that "We certainly now involve systems houses more in some of our procurements," and "We positively invite them to come forward with proposals".

come forward with proposals".
There has, however, been no general change in policy, he adds.
The system for the Northern Ireland rating division involves an IBM 4331 and a network of IBM 3600 financial terminals running under CICS communications software and DI/I derobase manner.

equipment, but he was not too happy with the ICL alternative beis beginning to show a greater in- large number of terminals at

NatWest joins govt 'small firms' scheme

by Boria Sedacca
THE National Westminister Bank has identified itself as a source of finance to small businesses seeking funds, woder the government's small firms loan guarantee scheme.

Barclays has made considerable Barclays has made considerable headway in this area, but National Westminster is a relative new comer to the scheme, which allows panks to get cover from the government for 80% of a loan to a user with insufficient assets. The boracwer pays three per cent over the with the bank,

National Westminster's partici-pation in the scheme came to light when it loaned £20,000 to Applecastle, a used computer equipment dealer which began trading last

ment of Environment continues to a year, the spokesman said, up from some \$150,000 a year two spend increasing annuals with US-owned time sharing hureaux years ago, before the new block Geisco and Comshare to calculate grant system was introduced. local rate support grants have also called into doubt the ability of UK The choice of Geisco, the suftware arm of the US General

the local authorities will spend.

The amount being spent on the

time sharing services to calculate

the rate support is about £500,000

firms' ability to do the job. Electric Chrupany, was based on But soggestions in the Financial Times that UK bureaux do not the company "having the right equipment" have sufficient memory capacity or software facilities bave been dubbed a "red herring". BOC Da-tasolve, Baric, and CMG all main-"UK firms using ICL equip-ment don't have the right snftware," said the spokesman. But marketing manager Chris Gent of Baric, the ICL and Bartain that they have the capabilities to meet the DoB computing re-

THE thorny question of whether

the government should show pre-

ference in boying from UK com-

puter companies has been raised again. Revelations that the Depart-

to local councils each year. It is a

complex calculation made on some 60 different indicators which de-

termine individual councils' needa,

clays Bank sobsidiary, disputes that, and says Baric "can do that kind of work, and has been doing quirements, and it is probable that companies like Centre-file and Scicon would also not rule themselves Baric was invited to tender for The computing work in questhe DuE job, he said, sud he he-lieved the quote to have been comtion is the annual assessment of the block grant the government makea

The choice of Geisco, and the generally large amount of government work being done by overseas bureaux may be historical, Gent

a DoE spokesman said. In the current year the government will pay about 56 per cent of the £20 billion ing capabilities for online jobs. But the UK has now caught up, he says, with Baric, which has had a reputation as a batch bureao, recently making a "huge investment in switch to network systems."

> nology Minister Kenneth Baker is on its way from BOC Datasolve managing director Chris Wood, who asserts that while BOC might have been somewhat lax in the past in gning for government tenders, it certainly had the enmouting power, software capabilities and

> Wnod is "more confident of the future", and says BOC is now much closer to the Central Computer and Telecommunications Agency, the government body which oversees computer pur-

> CMG group director Bob Faw-cett points to the difficulty of fathoming government buying practices, which he describes as a

'moving target".
"Give me a chance to quote, that's all I ask for," he adds, say-



TOOD . . Scuding a letter to the Minister for Interpretion Tech-

ing he was never asked to tender for the DoE contract. In further confuse matters, what is a UK company? Comsbare

what is a OK company? Comsoare
director Alex Jones says: "Our
parentage is American; but we
have probably the largest bureau
capacity in Europe in Chelsea."

There is aiguificant investment
in the UK, most software de-

velopment is done in the UK, and the company is almost entirely run by UK personnel, he saya.
But according to Barie's Gent,

the controversy that has been aroused by the DoE use of USowned hureaux means that the work insy go out to tender again. The CCTA would not comment.

Logabax moves up-market

LOGABAX, the peripherals firm government and Olivetti last summer, is embarking on a policy of moving op-market to big. State-owned and private tirms from the small and medium-size ventures which used to represent most of its

Managing director Jacques Dumas, former head of Sperry Univactor France, revealed this switch in Paris when he predicted that Logabax, now 65 per cent under Olivetti ownership and 35 per cent owned by Saint Gobain-Pont à Mousson, will be making a profit

Dumas said that since the restructuring of Logabax the staff had been slimmed down from 1,500 to 987 by shedding 30 per cent of French personnel and closing its foreign aubsidiaries.

The move up-market is reflected in Logabax's decision to stop manufacture of bottom range products such as the LX100 line printer, the improvement of the LX200 and increase in capacity of the LX500 and 6000 ranges.

IBM buys rights to French CAD system

hy Jack Gee IBM has bought worldwide rights from the French Marcel Dassault aircraft conglomerate to market its sophisticated Caria system for computer-aided design and mano-

> Ahliongh IBM has already acquired rights to about a score of French software packages, this is the first time it has decided to marker them on a global scale.

Daussault Systemes, a sub-sidiary of the vast Dassault empire, won IBM's favours for Catia n competition with US and Japanese systems. Boeing Aircraft Corp has alresdy chosen Catia fo computer assisted design. Dassault is confident that a similar choice will be made for mass production

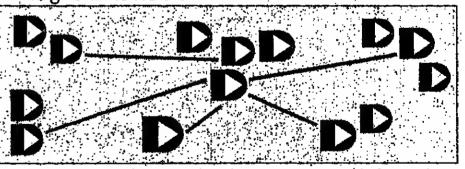
of the McDonnell Douglas F-16. Catia is the result of 15 years research. Dassault has put a team of 500 workers into the project, whose development has coat 25 million franca (£2.5 million). Cuatomers uielude Daimler Benz and

Lockheed and Honda are also no gotiating for Catia rights with Das

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£63,000 for Key

large sales organisation so as better large sales organisation so as better to meet the demand for small computers is getting £63,000 backing from Technical Development Capital, a division of Industrial and Commercial Finance Corp.

Roger Woods, an ex-Philips Data Systems asies manager who started Key Computers 13 months ago, was not willing to reveal his new avstem for fear of giving away.

new system for fear of giving away details to his competitors. But Woods does expect his company, which is an OEM based in Poole,

London 01-961 6777

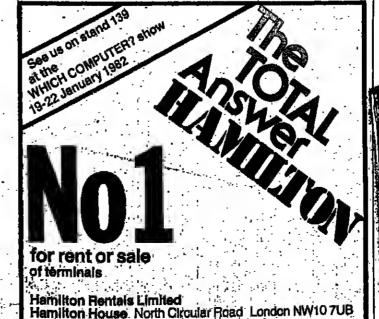
Birmingham 021-236 3561 Manchester 061-848 8338/8434

As part of the financing deal with TDC, Key is breaking off an arrangement with software house Quadrant Computer Services which was initialled only eight mouths ago. The separation is an amicable one, says Woods, and Quadrant will continue to supply

TDC will take a 30 per cen atake in Key Computers. TDC parent ICFC is part of the Finance for Industry Group, set up in 1945, and shareholders are the five major clearing banks (85 per cent) and the Bank of Eogland (15 per cent). If Woods' plana for Key are Dorset, to show rapid expansion, successful, there is expected in be with turnover for next year projected at £750,000.

successful, there is expected in be more money forthcoming in 12 months time. successful, there is expected in b

Central Scotland 0501 43182 Aberdeen 0224-25301



NON-STICK kitchenware maker Tefal of Langley has replaced its year-old Burroughs B92 with a l Mbyte B900 to cone with its 40%

commissioned software for it from Vaughan Systems of Ware to manage the timetoble information and communicate with indicator board cuntrollers and other devices. £25,000 software

SALES BRIEF

with Logica

BANK of America has arganised a joint systems development project with Data General, Remers and

ngica to develop a dealing room

afarmation system for its

Based on n Data General Eclipse

mini, the system will incorporate

keyboard-controlled videa

switching equipment developed by Reuters which will enable each

dealer to control several VDUs from a single keyboard, calling in-lormation facilities from different

MERCHANT bank Credit Suisse

First Boston has ordered an ITT

6100 text communication system

to handle telex message transmis-sion and internal distribution in its London office. The system uses a

20 Mbyte diac store. It allows users

SYSTIME has placed a £400,000

ORM order with SE Labs of Felt-ham for SE 8800 46 inch per second tape transports with five of

its larger models of minicomputer,

Systime previously supplied a tape transport made by Digi-data. The

SE Labs transport hos a built-in

controller which provides file

search facilities, as well as aids to

Train information

FELESIGN, the main contractor

for the £250,000 possenger in-formation system to be installed at

St Pancras station at the end of this year, has urdered a finppy disc-based 16-bit I28 Kbyte Computer Autumation Naked Mini 4/30 and

fault diagnosis.

Telex system

US bank

European branches.

deals

SIX-MONTH-OLD Pan Computer Systems of Sheffield, the systems house subsidiary of Sheffield Brick, has won two contracts for software additions to previously ordered systems based on Data General minia. The contracts, totalling £25,000, cover estimating and costing programs for Leeds-based shoplitters Mason Nordia and stock control, invoicing and sales statistics distributor A. D. Osler.

First orders

PHILIPS has received the first two UK orders for the P4500 office information system it launched in November. Jewsons, the builders merchant subsidiary of International Timber, placed a £111,000 order for a system with 12 workstations for its head office in Norwich and Glasgow-based Norwich, and Glasgow-based M.A. Systems Management, has ordered a £50,000 system.

Traffic control PLESSEY Controls is to supply an

urban traffic control system to Basex County Council. The contract, worth £209,000, is for a system based on a centrally located computer capable of controlling up to 250 sets of traffic signals. De-liveries will start in late 1982.

Growing to B900

growth last year. The £75,000 B900 will support 13: VDUs in offices around the country Exist. ling software was transferred from the B92



'Quirk of fate' results in forecast sales of £4m

SOFTWARE sales to Japan worth over £1/2 million are anticipated this year by Micro Focus, the com-

to the US and Japan, says that he was originally recruited from ICL in 1979 to head up sales in the US,

About two years ago, Alao amin, then with the Computer Services Association, organised ao outward mission of Japanese processes. I managed to persuade them to come to a demonstration oo a Bank Holiday Monday, which was their only free day, and about

software service organisations.
Surprisingly, Micro Focus bas
only recently achieved sales to
Hitachi, io spite of the interest

Paul Adams, the international business manager with Micro Focus who woo s Super Software Seller award for sales of CIS Cobol

tor, as companies like Hitachi use a wide variety of equipment, and also paying attention to implementation details. "Hitachi, Mitsubishi and Fujitsu spend millions developing their own software, then buying new technology to imple-

Software must also be adaptable to accommodate the Kanji, Hyro-gana and Katakana alphabets for the Japanese to use in business In the past, they have concentrated on engineering and process control

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Prestel, etc.

computers

Learning &

terminals

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communication

Colour Communicates...

trade discrimination

rently looming in Japanese-Ameri-can relations as two major Japanese computer manufacturers. Hitachi and Fujitsu, allege that the Americans are using the strategic embargo as a way of giving prefernce to American companiea

Late last year Burrougha announced that it bad secured a huge \$5.4 million order for a networking aystem, including two B7800s (Burroughs' biggest machine), to be delivered to a company in Beljing (Peking), in 1983 and 1984.

computer systems supplied rocessed through a military body
Paris called the Co-ordinating
ommittee for Export Control. It
cludes representatives of all the
Paris called the Co-ordinating
ommittee for Export Control. It
pite the fact that the Chinese company for which the network is destary.

nated by the Americans.

tee blocked the delivery of a Hitachi M 180 destined for a university in Beijing on the

Japanese allege US

The Burroughs application for an export licence is sull with the committee, but the American Treasury secretary Donald Regan recently singled out the Burroughs deal as an example of the kind of technical assistance American

which will supply time sharing to both Chinese commercial companies and government ministries.

Hitachi officials speaking in Tokyo said they understood that the pressure in the CCEC to limit the sale of Japanese contputers to China was coming from the US Department of Defence, and wos in direct conflict with the State Department policies which were to low the salea to proceed.

Burroughs is a major supplier of computers to the American nuli-tary, and Japanese officials who lid oot wish to be named sald that the military pressure to limit sales waa ''entangled'' in the relationship between certain com-

Hewlett-Packard adds to top end of its HP1000 technical family

A TOP-END real time minicomputer has been announced by Hewlett-Packard for its family of HP1000 technical computers.

The release follows hard on the heels of a major product launch for its 3000 series of commercial systema, and is part of H-P's strategy to become the world's number one supplier of systems to

the manufacturing community.

The new HP1000, called the Value/65, is still a 16-bit machine, but it bas virtual memory for data capability, which "pitches it at applications where you need 32-bit architecture for handling large programs, but you don't need the raw Dower's according to a raw power". according to a

H-P believes the virtual memory la the first on a 16-bit computer, and it allows users to access data arrays of up to 128 megabytes located either on disc or in main memory. The virtual memory is a feature of a new RTE-6/VM new scheme for segmenting

The HP1000, like the new 3000

stone towards the future release of maintains that the 16-bit market in the technical aector remains very big, it bas developed a 32-bit processor on one chip which will

eventually reach the market.

The main stumbling block to
the release of a 32-bit machine is compatibility for its existing cus-tomers, which entails a major rework of operating systems for both technical and commercial

In the meantime, virtual memory on the 1000 allows users to do most of the same tasks as a 32-bit machine at what H-P says i less cost, and the new top-end HP3000 series 64 announced in October has a 32-bit data bus and word, as well as a dual Arithmetic Logic Unit performing 32-bit arithmetic in a single cycle.

The Value/65 is primarily for

use in graphics, computer-aided design, and large computationtype applications. It can have one to two megabytes of main

memory, and has a new Fortran 77 compiler, a new Pascal compiler, database management software, and two and three dimensional A bundled one-megabyte system

with all the software packages costs £42,757, while a two-megabyte system costs £48,706. With the RTE-6/VM operating system up to 255 physical devices, includng terminals and periphernis, can

The 65 will also support the new isc drives that were released with the 3000 series. These include 16, 27 and 64-Mbyte Winchester disca with built-in streaming-mode tape cartridgea for backup.

MSA acquisition

agement Science America has formally declared its intention to take over Xerox'a Arista Manufacturing ystems division carly this year. Arista produces software such as

Firms buy police info

COMPUTERISED criminal in-formation can now be bought by private companies to the US fol-lowing relaxation of privacy laws, and one large company already has access to listings of lost or stolen vehicles to check ownership of cars parked in its lots.

A company could, in theory, gain access to full criminal records, although such an application from the First National Bank was rebecause it was felt indi-

originally prohibited all rate.

tion, was the result of complainta from press associations and was otherwise only intended to benefit computer systems dedicated to law enforcement applications. But this

is certainly not the case for McDonnell Corp of St Louis, which has bought a terminal online to REJIS; the Regional Justice Information Service, for over £1,000. The Idea of police information being sold is anothern to many US journalists, on whose behalf the change in the law was made, and does not even win full support of does not even win full support of the police, which readily admits the information is not always accu-

More councils use WP

USE of word processors in local government has increased fourfold

a dramatic increase in usage by leisure and housing services. Among documents produced are felephone directories and registers on the physically handicapped.

'Consult the workers'

USE of word processors in local government has increased fourfold in some departments during the last year, according to a survey by the local authorities computing committee (LAMSAC).

Of the 62% of authorities which responded to the survey, 79% are now using some form of word processing equipment, and a further 14% are awaiting either a decision or an installation.

The majority of applications are administrative; but there has been a dramatic increase in usage by

NEWS BRIEF UN picks World Comms Year

THE United Nations Assemble has proclaimed 1983 as World Communications Year. The parpose of the Year is to develop connumicutions infrastructures, with tion ut a untional level. The prockmation came after four years of

To be finded by voluntary contributions, WCY 83 will be one nised by the Internstitutional Telescope communications Union, a UN agency. The goal of the pagramine is the ensure that commuicationa are used to increase enomic, social, and culture development throughout the

\$250m credit

A REVOLVING credit worth \$250 million over three years has been negotiated by Burrought with a group of 16 US banks. Had of the group is the Chese Manhatan Bank, one of the three largest banks in the US.

The credit agreement replace an existing credit line of \$150 mllion, and is not earmarked for any used for general corporate purposes. Burroughs has the optionto convert the credit into a term low at any time. The term loan would run from four years from time a

Scottish first

STANDARD Life Assurance company has become the first business in Scotland to install as IBM 3081 large-scale mainfrage processor complex with 16 Mbytes of memory, 16 channels and 7,500 Mbytes of streets of streets of streets of 3380 dieses. Mbytes of storage on 3380 dir devices. The company says that the system generates enough her to provide central heating for 20 typical send-detached houses.

Cheaper calls CHARGES for international and

runk telephone calls are to be cul by up in 33% in two hatches, is Pebruary and May. British Telecum says that, while some cut were made to lung-distance call charges last Nuvember (when many increases were made to reatal and installation charges), these cuts were delayed so that BT would be able to meet the carning targets set by the government for the current financial year.

BA satellite deal

THE £150 million contract to build L-Sat, the first of a new gen. eration of large and powerful com-munications aatellites for the European Space Agency, has been awarded to Brinsh Aerospace, which built most of ESA's earlier satellites. BA will lead a team of companies from all eight of ESA's

DRI agent

THE government owned computer peripherals company, Date Recording Instrument, has signed its first overseas licensing agre-ment for its printers with Machinery Manufacturing Corpa Calcutta, India. The initial licence, which will run over several years is for the 6331 range of printers.

Later agreements are expected to include the newer 8000 series.

Network upgrade

THE 2,000-plus customers of Computer Sciences' Infonet remote computing service; one of the largest international information networks, are being upgraded to larger computers. Sixteen Univaciations are being replaced by all 1100/80s; and the more powerful they have more streamlined management structures, more delegation of responsibility, more flexible shop floor work practices, and more worker involvement.

The example of the process re plant industry is cited, where process ductivity is twice as high in Japan similar training the UK.

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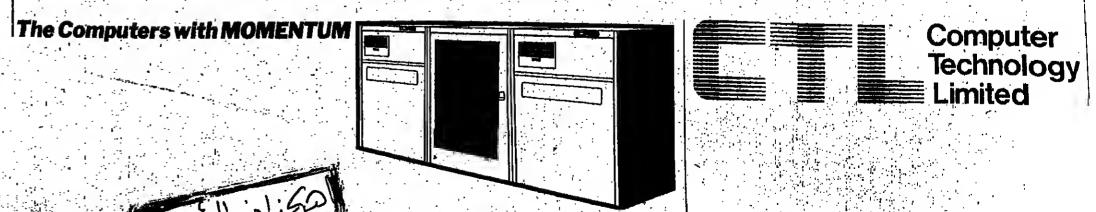
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Freelance Second police authority telephone picks Tandem failsafe suppliers lobby MPs system in £3m project

will require all independently sold telephone equipment to be marked as approved or not approved for attachment to the network has pa-

ITSA, whose 150 member companies for several years have sold imported telephone handsets in deliance of British Telecom's monopoly (ostensibly for use on prisingle aite), now fears that Its members will go out of business while waiting for independent equipment approval procedures to

start operating.

There is cyldence that while the buying public was previously will-ing to defy the monopoly, it now prefers to wait for the new approval procedures to start working before investing in more sophis-ticated telephones.

In an exchange of ictters with In an exchange of ictiers with industry Secretary Patrick Jenkin, ITSA has criticised the government's attempt to protect British industry by phasing in the liberalisation of equipment supply, arguing that overseas companies which already make electronic telephones can serve the UK merket better can serve the UK market better than the maia UK telecommuni-

Jenkin's letter points out that interim measures are being set up to enable equipment to be approved before new generally appilcable standards are ready.

British Telecom, which is im-

plementing the measures, says it has yet to receive any imported telephones for approval.

1TSA also complains that small businesses cannot afford to pay BT

between £2,000 and £5,000 a time

If your company's annual turn-

over is between £1/2m and £10m.

and inventory systems would

benefit from an in-house

Your stuff may be hostile to

an unknown technology thol threotens lo outpace their own

Clearly what is needed a sayatent that is flexible,

able to be installed at any

then your accounting, distribution

For you in particular, the choice of the

right computer moy well have proved a

problem. You need more than a 'desk-top'

computer, but dnn't require, nor do you have the experiise to operate, n mainframe

GREATER Monchester Police uthority will be the second in the UK to use Tandem NonStop comnicked the Isdependent Tele-phone Suppliero Association into a lobbying of MPs and Industry Ministers. proval. Logica is the prime contractor for the turnkey project, worth almost £3 million, which will provide a criminal record and

measage switching system.
The Manchester police committee has been working on the pro-ject for two years, with Pactel as a consultant, and confirmation that funds are available is likely to come in mid-l'ebruary. But the pressing financial position of local authorities, which has left some oubt about the total funda available in Manchester, has placed a question mark over final approval. Chief Superintendent Rankin,

administrative chores and for fighting crime. The main use will be by operational police officers, who will be able to make enquiries into the criminal records in a fraction of the time this now takes. making checks with the existing maoual system, enquiries now can only be made when the nature of the offence is sufficiently serious.

In smoothing administrative operations, the system will automatically handle much of the paperwork with New Scotland

in phases, will comprise six Tandem NonStop 2 machines, Co-dex communications equipment, and Lynwood visual display units.

switching and the creation of an internal criminal recorda database system. The command and control system will follow, and it is in-tended to link the system to the police national computer at Hendon ot some stage.

The criminal records database

will not be used for criminal intelligence, Rankin aays. Only cluded in the first instance. He anticipates that eventually sil

convictions will be recorded.

Northumbris was the first police authority to choose Tandem. That system is being put in by SPL,

US launches a nationwide electronic mail service

by Howard Karten

AFTHR nearly two years' delay caused by technical and political problems, the US Postal Service last week inaugurated an electronic mailing system throughout the

The computer that grows

any one time to qualify. The cost of the service is 26 cents for one of the service is 26 cents for one

page and 31 cents for two pages.
Observers have estimated that private companies may pay as much as one dollar to process and BCOM-Electronic, Computer mali their own material. By Originated Mail – is a hybrid service that allows large private mail-

ECOM is not just for anyone, intra-company communications has been growing rapidly, and sev-

risen rapidly recently and the Postal Service for many years has been the butt of cynical, aardonic bumour for its alleged slowness and occasional ineptitude. However, ECOM does provide a new service - rapid delivery of

year, which would recover the \$40

ers to transmit messages electronically to 25 of the largest Post Offices where the messages are then printed, put into envelopes, and delivered within two days.

The Post Office says 100 users the post office says 100 users already signed up. million in capital costs that went

American office firm cuts pay

y Howard Karten

from a promising junior to a seasoned executive US office equipment maker AM International, plagued in recent months by business losses, announced last week that it was size, yet with the potential to grow - a aysiem that is not only easily understood and used, but extends the capabilities of your staff - perhaps most important, a aystem that can be tailored specifically to cutting wages for all employees by 8 per cent from January 1. And its workforce is to be reduced by 5 per suit your huaineas.

Privector can provide precisely the system. It combines the CLAUDIUS program for Accounting, Distribution and Inventory with our own Brillsh designed and built computer TRITON 4A. The package offers a computer that can

grow from a busic single terminal, single printer installation to one with 128. Megabytes of memory, embling 16 terminals and 8 prinjers to be used simultaneously for individual tasks. ione, write or send off the coupon and we will arrange a demonstration in your office.



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orted a net profit of \$5.8 million.

by David Craver A FRONT-BND commi

In the second half of 1981 AM International sold off live product lines including his micrographics unit and a line of point of sale systems for the food industry. The firm's Jacquard division (small business systems and word processing) is currently up for sale.

It is based around the Systems Ground the Systems for creatily object the Si 100 bits — now standardised as the IREE 696 bus — and is readily upgradable through the range. Hardware for a uasble basic systems starts at about £4,000. The decision to stick with an 8-bit machine, rather than moving to 16 bits, was a conscious one. CPS

processor, amounced by Pleasey Peripharal Systems, marks the company's move into the distri-buted data processing market. The Z80A-based Unibus Communica-tions Subsystem is now available on the Pleasey SYST 13.23, con-figured around the LSI-11/23 and

As of January 31 a related round

of cuts will effect AM Interna-

For the year ended July 31 1981, the company showed a loss of \$245 million. A spokesman explaned that \$£203 million of that

was related to changes in the way.

the firm reports its income. The

tional'a overseas operations.

micro range to UK Robert Parry IN a move that echoes those of other microcomputer companies aiming to take their systems into the minicamputer domain, micro development and sales company CPS Data Systems of Birmingham

as taken on UK distribution of the System 2800 range of microcomputers made by Califor-nia-based Systems Group, a divi-sion of Measurement Systems and

SHBURNER . . . "A system which will upgrade realistically."

Midlands group to

introduce System 2800

mine when to change over, pre-ferring tried and tested machines

with avallable application software

for the montent. It is looking to-

warda a market of users wanting

good vendor support and a clear growth path, and who are

prepared to forgo discounts to get

CPS supplies three basic build-ing blocks for application seft-

ware, covering word processing, relational database and commu-nications aspects. Macros within

these make it easy to produce be-

poke soltware for particular users,

ecording to engineering manager

Operating ayatema on the

chines are an enhanced version

MP/M or Oasis for multiple users.

The CP/M enhancements speed up

disc transfers, by a factor of up to

four or five according to Draytoo,

The main plank of CPS' mar-keting effort is the service it can

provide, particularly in terms of

tomer has the communications

and give better error handling.

Richard Drayton.

CPS Data Systems is the micro arm of IBM mainframe dealers and leasing specialists CPS Computer Group.

Nick Ashburner, CPS Data

Systems' commercial manager said: "We bave been looking for a range of products to complement our own microprocessor product, Sauron, and we believe System 2800 fulfils this. Enhancements to be announced in the next few months will provide a system which will upgrade realistically with the users' needs."

The multi-user, multi-tasking

System 2800 uses the Z80A 8-bit spokesman also attributed current problems to high debts and interest rates. For the year ended luly 1980 AM International re-

customer support. Drayton puls much emphasis on the quality -It is based around the Systems system expansion and maintenance. Application software support can be provided easily if the cus-

The UCS has already been test

marketed in the US and Europe. By thanging Read Only Memory firmware the UCS will support

other communications protocols including IBM's HASP and 3270 and Usivac NTR, U200; and UT\$400.

For the future, Drayton sees the 40 Mbyte hard disc unit being available by the second quarter of appearing at about the same time.

software.

Plessey moves into distributed DP The UCS provides 32 Kbytes of ROM and 4 Kbytes of dynamic Random Access Memory buller

Plessey Peripherals in the UK is an offshoot of the parent company based in Irvine, California, It is an OEM specialioing in Digital Equipment compatible products and all other peripherals,



PRO Pascal with strings attached

PROGRAMS - written in UCSD Pascal may now be transferred to the CP/M operating system, using the latest version of PRO Pascal from Prospero Software. "This ahould considerably

widen our market," saya Tony Hetherington, ooe of the founders of the newly-formed company.
"The price of £190 for a single user remains constant," he added. "We are offering to upgrade existing PRO Pascal users for only a handling charge."
The feature which has made

compatible with UCSD Pascal i the atring handling facility. This has been added to previous options, which include random-aceaa file and 9-digit integer handling, and the ability to compile program segments separately.

Mark IV release

RELEASE 9.0 of the high-level Mark IV Application Development System tool is now available from Informatics, the company that planned to be the only one with a full range of imple mentation systems for IBM and piug-compatible hardware and software. One of the 260 enhance-ments included in the new version is the Generalised Data Base Interface, which provides an application programmer with transparent accesa to such databasea as Ada-bas, IDMS, Total, System 2000, IMS and othera. Operating envi-ronments for GBDI include IBM 360/370, 43XX, 303X and compatible aystems under OS/VS; DOS/VS, DOS/VSB and CMS:

Range extended

AN extension to Computer Associates' range of systems monitoring and accounting tools to analyze CICS performance has been an-nounced. Iocluded in the CA-Jasper/CICS package are the Wizard report generator and more than 20 pre-formatted analytical reports.
The system completely replaces
the IBM monitor for users of
CICS/VS Release 1.5 and above.

Top of table

THB combination of newly-available Basic-86 and the CP/M-86 operating system, both developed by Digital Research, will put the 16-bit \$086 IBM Dlaplaywriter to the top of the micro table, accord-ing to UK distributor Kitan Systems, of Southampton.

Candle grows

OPERATIONS in the UK are to be expanded by Candie Cor-poration, the US-based performance monitoring software bouse and it has formed a UK subsidiary called Candie Ltd. This coincides with the release of its ESRA/CICS monitor which analyses CICS res-ponse time problems.

Cash flow solved

A SOLUTION to allow cash flow problems has been developed by ion Micro Computers, in the Lion Micro Computers, in the form of a otock control package.

MC claims that the EOQ — Ecomic Order Quantity — system equires no prior knowledge of temputers, and that it can prevent inder- or overatocking. The paskage retails at £105 + VAT, and I run on most micros, including

6,000 figures may be manipulated or planning applications by the upercale package, introduced to be UK by LSI Computers of Voking. Available for most picrocomputers running under the atandard CP/M operating machines.

The atandard CP/M operating machines.

It can also be used to detect two and M-Three models: errors as words are entered, or to Supercald costs £190 + VAT.

PORTLOCK "DP departments must become less isolated." US query 'User help at any stage' language

launched formation retrieval market is to come under attack from Gany-THE US company Rapidata has brought into service o new interactive language for querying and updating structured databases. The XPLOR system was developed to make data stored in large complex mede, the systems engineering and software bouse division of Service in Informatics and Analysis, SIA. Aiming at the amall minicomputer and 16-bit micro market, Ganymede is offering a portable interactive system written in Fortran. It also intends to launch a DEC version in two montis' time, and later a Unix implementation. Originally developed in France make data stored in large complex structured databases easily accessible to the end user.

Rapidata'a move to supply query language indicates that bureaux and service companies are trying hard to keep in line with aystems houses which are offering attractive end-user facilities.

According to Rapidata the ianguage can be used in a custom-de aigned database or with one created with Rapidata's own tools, including XPLOR itself.

which may be used in two modes, one of which requires no computer knowledge. Under the full ques-tion and answer "didactic" mode, the user can ask for help at any The language has been designed to be enough like English to make it easy for end-users to get what they need from the database without a great deal of computer ex-pertise. There is a "help" system which prompts the user, and workspace utility which means that dats can be retrieved from a workspace after the initial query

Software best sellers award

THE second Million Doilar tails to Keith Elllott at ICL on 0

Bringing micro power to the factory floor

power has traditionally been directed at con-profit making activities. "90% of computer spending is on the accounting, which represents 5% of company activities and leads to nn profits," says managing director of Safe Computing Michael Portlock.

Safe Computing aims to change all that with its new product, Micro-Sefes, designed to being

Micro-SaFeS, designed to bring micro power to the factory floor. "DI tends to see itself as a separate part of the company. DP

departments must become less iso-lated and more oriented to the enda of the whole company," says He adda: "Micros are being sold

to managers at different ends of the business. The prime motiva-tion behind Micro-SaPeS is to cater for the production area. Ir has been neglected by DP but has enormous potential. Production has always been the poor relation." Safe has invested £1 million is the development of the Micro-£250,000 grant from the Department of Industry under the gov-

Up to three different languages are

worried us a bit, but they are aim-

ing at a different sector alto-

There are currently 15 Milor installations throughout the world, mainly on Hewlett-Packard or

Honeywell equipment, but Gany-

mede has yet to achieve its first

t in any sort of lorge institution

with textual filing systems such a

or dealing with market research o

"EURIBON of course!"

Manual Company of the Section of the

COMPUTER RIBBONS IMPACT PRINTERS • COMPUTER PRINTER PRODUCTS FOR NON IMPACT PRINTERS • MAGNETIC MEDIA • CLEANING PRODUCTS (ANTI-CONTAMINATION AND ANTI-STATIC) • PRINTOUT BINDERS (SUSPENSION) • PAPER PRODUCTS AND STATIONERY • STORAGE CABINETS AND FURNITURE • ANCILLARIES • WORD PROCESSING SUPPLIES • RIBBONS (FABRIC AND FILM) • CORRECTING PRODUCTS • COPYING PRODUCTS • WRITING INSTRUMENTS • FILING SYSTEMS • OFFICE FURNITURE AND STORAGE • IBM RECONDITIONED TYPEWRITERS • PAPER PRODUCTS.

electrical componenta," said

possible on Milor.

kit from Ganymede

by Maggie McLening

AN unexploited area of the in

oftware bouse division of Service

Originally developed in France by SIA's parent company CISI, Milor is a text-handling system

Access keys such as keywords or

names of authors are indexed in

the vocabulary, or dictionary, and

in a hierarchical link, or thesaurus.

"Where shall

we get our computer supplies?

The micro version of the SoFeS production control system should bring a new class of customers within Safe'a reach. The first step is to build up a network of dealers throughout the UK to market the micro system.

The first sale, to Rodman Development in Cheshire and worth about £3,000, was made by one of the agents, Alpha Business Computers. Already there are more in the pipeline. "We intend to attack the UK

first," says Bryan Neale, Safe's marketing manager for Micro-

The Micro-SaFeS system for amall factories was based on Safe's successful production package of the same nome for ICL System 10 and System 25 kit. The micro version was written in the MicroCobol tool developed by CAP, and is now sold by MPSL, which means that the software is totally portable beera, via the BOS operating system. Phase one of the system, already

available, includes the establishment of a parts master file, paris list, stock control, basic ond extending costing, ABC and per petuol audit, routeing and trial kit-The second phose, due to be

released in August, incorporates sales and purchase orders recording, order analysis, material requirements planning, work-inprogress, capacity planning, shop-loading and variance monitoring.

Portlock promised changes for Chubb subsidiary Safe when he was oppointed last summer, and admits that he has "driven this one hard" because it fits in well with the way he would like to see productions sold. Safe is now integrating its activities so that it offers o range of solutions, from bureau service to the micro package.

Plaus for Safe Computing ove the next three to five years include expansion to three times its present size, according to Portlock The development is to come from overseas expansion, acquisition and new product penetration of such areas as the micro market.

Agent problems delay data dictionary sales

and micro applications manager at Ganymede, most competitors do not have a multi-lingual capacity. DIFFICULTIES in finding a US agenr have delayed sales of a data dictionary for the Hewlett-Packard HP 3000 series developed by Horsham-based software house "We believe we are almost alone in this field," said Catling. "ICI produced a version of Assassin for 8-bit CP/M micro systems that Deltom Computer Services.

"There is no assistance available for small companies wonting to find ogents in the States," said Zubin Rustom, a director of DCS. "It took us over a year to find

Independent Systems Support, which specialises in IBM equip-ment, bur also has a lot of people working on Hcwlett-Packard." A potential five orders for the

dictionary, which costa £4,250 fo the Mark 1.4 version, ore unde negotiation in the US at the mo ment, while a second sale in the UK has been made to an as yeunnamed merchant bank in the

printer family

"Traditionally, this type of system has been aimed at libraries, but we think there is a market for MX 80 F/T MX 80/L

08 XM 80 ens Matrix Printer • 9 x 9 Matrix, Trua Descandars 4 Print Sizes, 40/66/80/132 Columns Full Forms Handling 64 Graphic Characters

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New to UK

e ITT 2020 and the Apple II. N analysis sheet containing up to

rather than continually accessin

Awards ceremony to be held in Europe is now open for entries.

The awards highlight software best seliers, and have been established for some party of the control of the c lished for some years in the US.
Judging takes place in the last
week of January, and companies which have done over £500,0 worth of business on any of their products are invited to submit de-

This year o new Floppy Awar will focus on the fast-growin mierosoftware industry.

WP package can proof-read

A PROOFREADER with a vocabulary of 90,000 words in the latest addition to word processi age Lex, aupplied by Ace Microsystems for use with Digital Bruipment PDP-11s and Van machines.

proof-read an entire document,

Brighter future for video cassette in disc back-up market?

reluciant acceptance.
Alpha Microsystems, California

the technology by recording data redundantly and to popularise VCRs as a convenient means of providing back-up.

A VCR controller board, the

M.610, was introduced in the US AM-610, was introduced in the US in November and has been announced by the London-based arm of Altha Micro.

The board allows standard VHS

The board allows standard VHS or Beta recorders tu be integrated stored on a four-hour cassette, with recording redundancy giving low error rates and error checking.

Alpha Micro's Dave Pheasant says blocks of data are normally recorded four times, though the user can select the level of redundancy.

File oriented back-up is provided by the controller board, with

a directory allowing users selectively to record and retrieve random and sequential files. It is fully programmable and, when used with a time of day clock and a programmable recorder, can pro-vide automatic back-up when no

A visit to Microsystems '82 is o unique opportunity to examine and discuss o

complainly comprehensive range of

products and small business systems, logelher with software programs and products.

A CAMPAGE AND A STATE OF THE ACTION OF THE PARTY OF THE P

VIDEO cassette recorders have out caught nn as back-up for hard nience compared with other backdisc based computer systems despite the high storage capacity and cheapness of the cassettes. High error rates have contributed to this are considerably lower.

> board will work only with US stan-dard VCRs, not with machines available over the counter in the UK. It is as yet undecided whether UK units will incorporate circuitry VCRs or whether US recorders

ter system back-up technology", using VCRs in this way is not so into any of the Alpha Micro comnew. Corvin Systems has been new. Corvin Systems has been selling its Mirror, a similar VCR

controller, for two years.
According to George Gubas,
Corvus product manager st Keen
Computers in Nottingham, which
distributes Corvus kit in the UK,
Mirror was developed because Mirror was developed because many businessmen in the US already bad VCRs, making it a cheap back-up system. There is accept the VCR, but the £500 Mirror sells well - and works with any UK machine with a camera input. Gubas estimates that about two-thirds of Coryus systems are sold with VCR back-up.

Blocks of dats are copied four times and there is built-in verifica-tion.

hased manufacturer of 16-bit Alpha Micro in the UK is that the

TURNER . . . "A completely new program."

'What if' solution for accountants

if' projections on your accounts?
One solution would be to write a program small enough to leave suf-ficient memory to earry out the calculations required once it was fed in — which is just what accountant Mark Turner of the Birmingham-based Cronite Group has

His program, called SimpliCalc, is written in Basic and contains 134 ines. It allows a user to set up a fixed size worksbeet each time the program la run. A number of rows and columns are defined and the screen becomes a window on part

of an initially blank sheet. The size of the sheet depends on the available RAM and the density

At a user, spacifiar or buyer of electronic products, Microsystems '82 is on important date in your diary.

Admission to the exhibition is by business registration and costs just £1.00 at the door

an 8K Pet and want to do "what contents, but as a guide an 8K contents, but as a guide an 8K machine could bave 250 to 300 elements rising to 2,500 to 3,000 with 32K.

Cursor keys move a column-wide cursor (seven characters) about the sheet, with the screen moving to keep the cursor in view. Entries refer to the cursor position. Eight single-key commands enable the user to jump to particumulae, save or print a whole sheet, replicate rows or columns, see how much memory is left, enter a formula and wipe the sheet clean.

Turner, who developed the program for his own use within Cronite, emphasises that Simpli-Calc is not the machine code

completely new program which re-cognises that in small computers program and data fight for memory space. With SimpliCole you can get in a lot more data than you could using more traditional calculating toutines, without the need for a costly disc drive."

SimpliCalc has been in use at Cronite over the past year, calculating costs of special mixes of the high grade nickel alloys the com-

pany produces.

The program is available un cassette or mini floppy for various Pet models for £30 or £40 respectively. Versions are in preparation for the Vlc-20 and the Apple II, and are planned for the Sinclair ond Acorn/BBC machines.

Software development tool

A DUAL-DISC microcomputer development system based on CP/M has been developed by Vector International of Leuven, Belgium as a software development tool for microsystems using 8080A

portable Eurocard frame. The basic unit has 32K dynamic RAM and two disc drives giving 160K user space. Six empty card slots allow for memory expansion and provide additional I/O options. An EPROM programmer can also be

Operating system software Includes CP/M 2.2, which Vector distributes in Europe, and utility

POWER consumption down to one-tenth of that of a atsodard Z80 microprocessor is offered by Ziloz with its low-power version, the Z80L. Clock rates of I, 1.5 and 2.5 MHz are available with power consumption of 25 MHz. sumption of 75 mW.

The reduction in power con-sumption has been achieved by sd-justing the parameters of the pro-duction processes. Reducing the

The Z80L is fully pin and soft ware compatible with the standard part is fully supported by Z80 development systems and in-circuit enulators. It can be used with Zilog's 8-bit peripheral chips. Low-power versions of peripherals will be introduced, using ten per cent of the power of current chips at prices substantially lower than CMOS equivalents; according to Zilog.

by Robert Parry **COMPANY NEWS Portable** market \$5 million

PORTABLE computers, and other related portable product, will play on increasing role in the computerisation of society, according to a report* from International Resource Development. They will mave beyond users who need the portubility to carry out their jobs to those who simply want the ease, convenience and status of the devices, says the report.

by 1991'.

The market for these units i expected to reach \$5,760 million by 1991, with a substantial consumer market growing out of the commercial, industrial and military markets.

More than a million units will have been shipped by then, com-pared with the current 55,000, the eport predicts.

The eventual size of the business market is thought to be indepen-dent of the cost of the units. Those thought to be priced too low will be viewed with suspicion, parkularly in terms of vendor support. Consumers will be looking for more functions at entry-level onces, rating case of use highly.

The commercial success of portable computers will depend most on their user friendliness, the report says, since most users will be non-technical salesmen or executives. "The computer will have to react to the user in much the same wey that another human being would - it will have to make sense or it will be rejected."

The report predicts that voice recognition and synthesis will help with this, as will coreful keyboard and display design.

User programming will have to be provided. A successful spproach, accurding to the report, is to provide a simple natural-like language which can be used to de-cribe coutrol structures and system functionality. This might be inefficleut from the systems point of view, but will perform tasks to the way the user wants.

Suftwore custs are expected to reach three times those of hardwore hy 1985, largely because of the high cost of softwore labour and the shortage of programmers. The report predicts that software naintenance contracts will become

Software intensive portable products, \$1,285, toternational Resource De-velopment Inc., 30 High Street, Norwalk, CT 06331, USA.

Zilog cuts power consumption

doping levels gives the lower power consumption, but with a lowering of the operating speed of the device. Shrinking the size of the device has enabled the speed to be kept up.

The Z80L sells for about £10 for the 2.5 MHz version in quantities of 100.

ICL out of risk and heading for £50m profit, say brokers

A LEADING firm of City stockbrokers has predicted that in, the company began 1981 with a stockbrokers has predicted that ICL will turn in a profit this year,

despite recent losses.

Michael Whittaker, the computer industry analyst at brokers Simon and Coates, says that ICL is a buy, and that the company is out of its period of greatest risk.

pany will make a pre-tax profit of £10 million this financial year, and will achieve pre-tax profits of £50 million in 1982/83.

Whittaker makes these predic-tions in the wake of the full annual accounts of ICL, issued last week.

Those accounts show just how serious the company's position became in one year, with a pre-tax profit of £17.7 million turning into a loss of £55.2 million and revenue reserves in the balance sheet falling from £108 million to minus £11.8

An extraordinary loss item most exclusively of the cost of more than 9,000 redundancies, and was about £20 million more than the average guess by the financial community in the City, which bad inally reckoned on a figure around In 1981 the company moved to new offices in Chipping Norton, and according to Alan Adam of the

LAIDLAW . . . Orders already running at a higher level than last year.

vice operation which went into re-

ceivership before Christmas, is now for sale as a going concern, complete with 30 staff.

The company, founded in 1968 by its current sales director,

specialises in providing computer-based cataloguing services to libra-ries in the UK and on the Cond-

From its original base in Oxford

is basta on the prices of the UK

where necessary. *Shares traded on the Unitsted Securities Market or under Rule 163(2)(a).

"Shares traded on the United Securities Market or under Rule 163(2)(a).

120
115
110
106
109
086

June July Aug Sap Oct Nov Dec

Oriel bureau for sale

the company grew to a turnover of £400,000 in 1979, with profits that year of £20,000. By 1981 Oriel had as chairman, but on December 18

pushed turgover to £700,000 but the receivers were called in

CW SHARES TABLE

The company's revenue re-serves, which are the normal balance sheet buffer against the kind of losses sustained last year, took

Birmingham office of receivers Peat Marwick Mitchell, the move The total reserves at the end of September, 1980, stood at £108 million and by September 1981 the reserves has fallen to a minus of cost the company more than anticipated. Within a few months losses of £90,000 bad been clocked up and by October the staff had been reduced by 14 to the current 30. There was a last-minute bid to rescue the company when a local property millionaire, Sir Thomas Hoston Coswell, joined the board

This was despite a dramatic reversal of the foreign currency posi-tion from a loss of £11.6 million in 1980, to a net gain of £14.1 million in 1980/81.

negative revenue reserve of £11.8 million. To put the reserves in the black the company has recently offered existing shareholders the opportunity to buy shares at 25p, against the 40p to 50p at which the

shares were trading prior to the

rights issue.
Following the issue of the offer documents the share price fell back to 34p, but with the unpaid shares trading at 8p to 9p thia effectively means that the price has hardly changed.

The rights issue will bring in about £32 million, and provided

the company does show a profit in 1981/82 and maintains its winning reserves should stay in the black.

The problems facing the board bowever were clearly stated by the chairman Christophor Laidlaw, who said that the company exin the first half of 1981/82.

On a more partitive note, he said that orders in the first two months of the current financial year (October and November 1981) were at a nigher level than the correspondng level of last year (1980). With four months of that first

half already gone, the position, particularly the losses predicted for the first quarter, should be company made a trading profit of £400,000 before interest charges of

£15 million.
With about £60 million, perhaps more, taken off the cost overhead and with trading continuing at the same level as last year, the compan should be able to make the £20 to £30 million profit forecast by some

City analysts.
It is continuing to sell off sur-

issue must be on the boards.

Bolk those items should help to

tion in the company's inventories.

On the sales side there was

Income from services also rose

ubstanual change in the pattern o

pared with 42% in 1979/80.

The company pushed sales in America up 50%, from £10.2 million to £15 million. ICL is also reduce the debt, which stood at understood to be making a profit overdrafts and £92.3 million in the on its American operation, having form of inng-term overdrafts and made losses in 1980. Sates in Asia and Australia rose from £65 million to £81 million export credits. There are also the £50 million of

£1 redeemable preference shares issued to the banks in exchange for and volume in Africa also rose, though less dramatically, from £75 straight loans and which are redeemillion, to £77 million. The major falls in sales occurred

mable oo April 5, 1983.

This grand total of £239 million will be costing the company anything up to 16% or more, particularly the overdrafts, and it is fundamentally this interest charge in Europe, where sales fell from £120 million to £103 million. Sales in the UK fell by over £12 million, from £404 million to £392 which wiped out the modest trad-Income from the two leasing companies which ICL owns with Barclays and the Midland Banks

ing profit in the second half of 1980/81, and which will continue to jeopardise the company's recovfell away very sharply, from £4.9 million in 1980, to £1.9 million in 1981. One of the more positive achievements of the new management has been the drasuc reduc-

No explanation is given for the sudden £3 million change in this revenue, but many companies switched in 1981 from leasing to restal of their computers and ICL benefited from this in rental Sinck, most of it in the manufacturing area, was cut from £183 mil-lion, to £139 million. This has coincided with a revenues. substantial speeding up in the The company also increased it

manufacturing cycle. Reports in July stated that the company had at that stage taken 28 days out of the time it took to manufacture goods. That trend repurchase provisions with the leasing companies from £19 million in 1980 to £22 million in 1981. Because the accounts are nov

three-and-a-half months old i terms of the information they cor tain, items like the sale of the PCB factory to Fulltsu are no the company's business.

Rentals and services constituted mentioned. Sales such as this wi have a significent impact on the 50% of turnover in 1980/81 comcompany's cash position.

Brokers Heseltine Moss have

recommended the ICL shares u sharply, from £300 million to £357

Sales of equipment fell by £21 Other brokers say that the right million and sales of equipment to leasing companies fell by £41 mil-lion, from £150 million in 1980, to issue is going well and that the take up any surplus shares.

Quest shocks market with half-time loss

QUEST Automation, the Dorset-based computer-aided design and velopment expenditure at the com-mini maker, has shocked the pany has increased from £449,000 the financial year.

were quoted as high as 175p at one The price was one of the highest

achieved by a computer company and the sudden revelation of the loss, accompanied by the directors' prediction that the company would make a loss for the year, was unex-Lest year Quest also revealed a

loss for the first half of the year of toss for the first half of the year of £347,000 but recovered from this to show a final profit of £813,000, Tony Ebel; managing director, says the results have been materially affected by the world recession.

Quest is involved in very ad-vanced computer software and

half of 1981.

Late last year Quest launched minicomputer, the Q1600, and sales of this machine have been particularly affected by the poor

However, the company is involved in aggressive marketing expansion and this has contributed to overheads in the short term, according to the directors.

On top of that, Quest bought Genesys and Computer Instrumentation last year.

recently been reorganised. Ebel says the short-term effects of this will be felt in the second half, though the company is predicting a profit in this area.

For Genesys the directors are forecasting a negative return right through to February.



New 925 giving a code competibility with all the Televideo family plua e detached selectric atyled keyboard feeturing eli the advantages of the 910, 912

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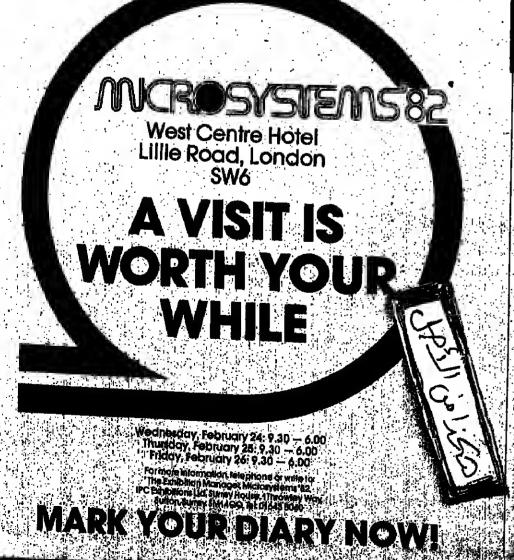
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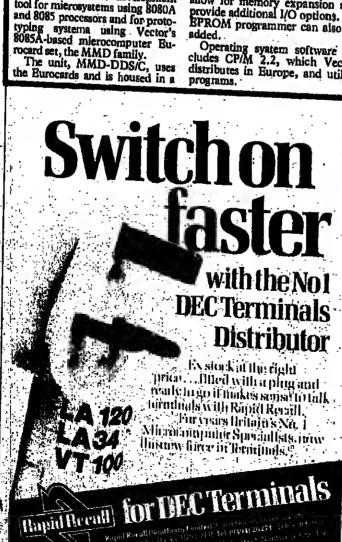
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Watch out for complexity, it is a danger signal

My natinnal identification

my name and postal zip code on

The system would be inherently

more reliable, since people are

and address information.

suitable dotobase)

any artificial number

The Flith Law of Reliability: tilication number usually indicate Self-checking systems tend to that the designers have not be complex in proportion to seriously considered or understood the inherent lack of reliability the more powerful capabilities of the more powerful capabilities of natural identifiers such as name

WHEN a salesman gives you o long list of automotic features, in his product, for fighting errors:

My national identification number 241240-385-76 has two check digits: TOM GILB 1411 (same length as the number) using

You must not fall for the temptation to translate his message in the woy that he wants you to: "My correct them for several-character system is more reliable than my errors (by comparisoo against a competitors', because it has more Remember that there is onother

possible translation: "Our system more likely to remember, and be has been so full of bugs, errors and able to verify, their names, than problems in the past, that we have finally added error detection and ready reoched your ears."

I should stote that the natural for our had design. I am telling many more possible variations you this in case the bad rumours than I can discuss here to make o from our other customers have al- coovincing case.

This is not to imply that the presence of error-fighting focilities is necessarily a bad sign. But it is not necessarily a good one either.

For example, the one or two check digits at the end of an ideo-A second example is in

10 YEARS AGO I From Computer Weekly of January 13, 1972... the IBM 360/195, the Texas Instruments ASC, was due to make its public debut in Amstordam are by increasing fees—members rate increased from £9 to £13...

In the jast few weeks ICL bad increasing fees—members in Europe worth a capacity of the University of the Uni

The Cossor Fast Repair Service is available to Sprint Printer Owners.

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Oume Corporation, spall owners of the Sprint range of printers can now take advantage of our unitivalled test and repair service.

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Work is done to the highest standard (MOD Defence Standard 0521).

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seven working days from receipt, but in emergencies we can repair single

boards within 48 hours. 3 or 5 printer and you want to discuse service just 80. If you own a Sprint 3 or 5 printer and you want to discuse service just 80. If you own a Sprint 3 or 5 printer and you want to discuse service just 80. If you own a Sprint 3 or 5 printer and you want to discuse service just 80. If you own a Sprint 3 or 5 printer and you want to discuse service just 80. If you own a Sprint 3 or 5 printer and you want to discuse service just 80. If you own a Sprint 3 or 5 printer and you want to discuse service just 80. If you own a Sprint 3 or 5 printer and you want to discuse service just 80. If you own a Sprint 3 or 5 printer and you want to discuse service just 80. If you own a Sprint 3 or 5 printer and you want to discuse service just 80. If you own a Sprint 3 or 5 printer and you want to discuse service just 80. If you own a Sprint 3 or 5 printer and you want to discuse service just 80. If you own a Sprint 3 or 5 printer and you want to discuss we can help.

work is done to the nignest standard (MCL) Detends Standard USZ1, in 1801).
Additionally, we have insurance cover for the time your equipment is in our

hands So, this le a service you can trust.

poration, so all owners of the Sprint range of printers can now take

TRKTO DISCRETE CONTROL Service Division.

Costof Electionics Limited Service Division.

Costof Electionics Limited Service Division.

Taking Stagk CM19 588

rage for your owo reliability logic.

A third manufacturer proudly conservatively engineered that even with severe power dips and failures bits will not be lost. He has no parity bits. They would only complicate the circuitry and in-crease the probability that something will go wrong. He opens the record on system availability to you for inspectioo, and it is

Regarding the first supplier, I had an experience on its system where the warning circuit for the parity bits failed intermittently for over 12 weeks (at an oil company in Melbourne) before the company

conclusion on the basis of these three options. Many other factors plsy a role. But the Fifth Law seemed confirmed by this practical test, wheo the supplier with all the parity bits had such great troubles in its fritial incultainers with initial installations with power fluctuations, that even its error correcting codes were of little

AUTHORISED

SERVICE AGENT



Tom Gilb is an independent consul-

full-time employees just to fight the oew bugs in the software.

The salvation came only when the softwore supplier made use belatedly of the inspection method (Fagan's) and managed to clean up the product so well that my client did not need any specialists to fight

statistics oo testing workforce and methods only reflected a bopeless error situation. The really reliable quality seems to come primarily as s result of early design engineering for reliability, coupled with strong early design stages and continuit with QA through production

My advice is to readers is: Field experience is the best re-able indicator of system reliabil-

ty (do not trust impressive design ifications alone), and Reliability should be inherent i o design, and simplicity, not com-

Racing to keep pace with IT

SHOULD productivity awards be allocated to government depart-ments, it is already cleor that our industrious IT Year team would scoop many of the prizes, except possibly from the Cabinet Office. The Prime Minister's announcement that 20 IT centres were to be stablished has been trumped by

he Minister for Technology in his New Year's report that the first 30 ceotres have already been created, with a further 70 in the data pipe-Given the current rate of progress, there could soon be more IT Year ceotres than DP installa-

tions or High Street micro stores. theme of the year. taxpayer around £100,000 a year plus an initial equipment funding of £55,000, the computer industry has suddenly (ICL apart) become a net beneficiary of public funds. To these impressive amounts must be added those of sponsors which, with the notable exception of IBM in Portsmouth, are in the

maio public authorities and educa-tional bodies.

The ceotres are designed for local ucemployed youth who will be given training in basic informa-tion technology and social skills. But just who will be imparting their collective knowledge and social wisdom skills in information technology is not yet clear.

IT is an area io which even dedicated DP professionals are having a bard time just keeping pace with progress. Information processing already embraces teletext, focalmile, message switching,

processing operators. Current in-centives for system consultants and field engineers coofirm the and field engineers confirm the shortage, with salaries exceeding £20,000, plus a package which of-ten includes o company car, stock options and a cheap mortgage.

However, it looks as though the Department of Iodustry will be kept on its toes io 1982. British felecom could make a challenge for the productivity stakes. iberatisation looks like being the British Telecom has certainly

got the information communicatioo message, and apart from up-Prestel/viewdata, has receotly annouoced a oew Satstream service. This is oot, it seems, an online soda fountain, but a method of communicating signals by means of a dish satellite serial. It is claimed that it will opeed the transmission of data, especially between the computer iostaliation and related data backup centres.

The coosequent feeling of DP personnel resources could be put to good use in the government II training centres. Allowing DP pro-fessionals to interface either personally or by means of a dish satellite transmission with the IT trainees could be a practical step towards producing recruits which the computer industry oceds. rather than the ones the Ministry

11

"Just program this, and I'll come back for it at four o'clock."

Weighty

matter

THOSE who want to stop some thing from being stolen should not only have it rooted to the spot, guarded, or locked away, but seto to be rooted to the spot, guarded or locked away.

This hallowed principle has been applied to an interesting new

device which, according to its de-

power of a hundred burglars to

shift. Yet its chief strength is its

Alan Simpson

Groovy doctor has some classic answers

AN American doctor, It has been to the Daily Telegraph, and you.

These entraordinary powers are the result of years studying the prove patterns made by particular rhythms, instruments and sound in provers and freak memories are developed at the expense of other politics. olumes, and he now knows aundreds of symphonics off by

AN American doctor, it has been reported, can identify a gramophone record by studying its grooves. He was given a recording of Mozart's last two symphonies and identified them as being "probably a pair of Mozart glous mental calculating powers appropriate." photographic memory and prodi-gious mental calculating powers and, this correspondent argues, symphonies."

He then correctly identified Holst's "The Planets", pointing out that it was a recording he had not seen before, probably by a German orchestra.

and, this correspondent argues, you would have a burnan computer, lo fact, because there are also the ordinary human abilities — like telling a tall story. telling a tall story.

developed at the expense of other human qualities. People who can multiply six-figure numbers in 20 Now exercise your imagination, seconds of teo take as many as did the author of a recent letter seconds to recall their own name.

Controlling calories

NOTHING pleases me more than the prospect of a varied, filling, six course meal — and the very thought of a diet conjures a fleeting deathwish. Still there are those with a leaning to fat and for whom weight watching is a natural corollary of vapity, if not of health. But never mind, for there is now, I am happy to report, a computer controlled diet which offers the maximum possible variety while ensuring your recommended.

A larder of healthy foods (sic) is fed into the computer along with the various mutritional values of each. A random oumber generator then builds your surprise dinner.

This system has a slogan which I seem to have heard before, but here it is for the record: Count the calories and the pounds will care for themselves.

Very model of a modern

OUR mimitable Minister, Ken-earth hard when in the same neth Baker, certainly has a way address he providly announces that with words. "Blectronic man has be is the modern version of the said recently."

said recently

If that is not enough, try this.

That is surely worthy of Groit. Biectronic mail is fighting Busby cho Marx, but he obties down to status laser, he only.

deterrence. We will not dwell on the statis ' ties of Anchor Pad; let it suffice that it makes the removal of office equipment from the desk a matter of considerable time or strength.

The device is aimed at stopping the audacious, but common practice of stealing during office hours by posing as a repairman, or caretaker. I only hope it will not stimulate a still greater audacity by encouraging thieves to pose as re-moval men and lift the whole desk lock, stock and boil.

The answer has to be to put each computer online to the nearest

Chad

ComputerWeekly

Quadrant House, The Quadrant, Suttun, Surrey SM2 5AS Thursday, January 14, 1982

Fragmentation of effort

ONCE again, British iodustry is being taken to task for not organisiog itself effectively against foreign competition. This time the target for a critical report from the National Economic Development Office is the field of real time software - a subject in which Britain is used to thinking of itself as something of a specialist.

The report finds not that talent is lacking, the history of real time innovations such as the Coral and RTL/2 proves that, but that the effort to develop real time software is dissipated in bespoke projects rather than going to build high-level tools for general use.

"The general picture is one of enormous fragmentation of effort," says NEDO. It all comes down to the Not Invented Here syndrome, or even Not Invented by Me. Better management methods and software tools, and co-operion, are pinpointed as the way to keep Britain competitive.

The call for greater standardisation is one that will be met with approval by everybody in the real time software business . . . so long as the standard conforms to the tools they have developed. Individual companies have a way of clinging to the techniques and tools they already have.

The emergence of Ada, the real time language defined by the Department of Desence in the US, could be the opporunity to break the pattern.

The Defence Department is a big spender, able to dietate ts own terms. In an effort to get a foot in its contract door, British companies are already baoding together to work in consortia on Ada and the Ada Programming Support Environment, tools at the very level specified by the NEDO report. Note that Ada itself was Not Invented Here,

If the companies can show themselves willing to bend by producing software which meets international requirenents, then real time software could be high on the list of

Regulation must stay

THIS year's season of goodwill has seen the ending of two of the loogest running and most expensive cases in legal history. The US Justice Department has dropped its 13year-old anti-trust case against IBM and has settled out of court with AT&T.

On the face of it this seems to mean that the great US public has lost its ability to defend itself against voracious industrial glants, now let loose by Reaganomics. And if the US Justice Department was no match for IBM, what chance does the BEC stand?

But it's not so simple. IBM's dominance in the market has not prevented Digital Equipment Corp, Data General or even Apple from showing that there is more than one way to

Both the IBM and AT&T cases have been overtaken by eveots in a world dominated by the pace of technological change, IBM's market position has not prevented its performance from deteriorating. Nothing the Justice Department does can control developments in Japan.

The attempt to prevent AT&T supplying data processing

services has become increasingly absurd as more and more companies apply their efforts to integrating data processing with telecommunications.

So is technology proving the dominant influence of our time, confounding the efforts of the courts and dealing the death-blow to the excessive fear of industrial gigantism

Not quite. IBM and AT&T are still large companies, dominant in their markets, and it is possible for them to abuse their positions.

No doubt it is good for everyone but the lawyers that the US anti-trust cases are over, but some sort of regulation is needed to keep such giants in cheek. This cannot be left to

Though it is now much tougher for the EEC to press ahead, that is exactly what it should do, either to bring IBM to book or give it a clean bill of health. Regulation must

1984 and all that . . .

THIS week's example of the atrange things people say about computers was sent in by Andy Gay of Chinnor, Oxfordshire, who wins 25.

The user can programme his own games in a language called Hexadecimal. This is the shape of things to come, although simpler languages will be occuded.

Daily Mail

Pioneers of the past

review of current ICL softwore, you may be interested in a brief history from a user, of equipment from companies which were

inerged to form that group.

In 1940/41, the Powers-Somos mechanical punched card tabulator, programmed with a fixed-wire connection box, gave direct subtraction on its adding units, avoiding the need to accumulate debits and credits in separate accumulators to reach a net balance total, as was then necessary with Hollerith-type equipment.
In the 1960s, Ferranti with ICT

delivered card readers which could take 65 or 80 column cards, including those with interstage punching, into the Orion or Atlas computers, facilitating transfer of all existing puoched card data files to the computer. In 1964, I received an Orion

computer with fully developed magnetic tapes sorting software, running several jobs simultaneously, and giving, via the punched tope monitor output, data

cioted company in New York, and was taken by their supplier to see lus latest developments; at his bureoux, users were clocking in and our mechanically, to ohtain approximate cost of multi-usage.

The experience gained with the Orion was carried forward into a 1904 system, again with automatic transfer of data from one-inch to 1/2-inch magnetic sapes via a computer link, in 1971-72 parallel running. I handed over the installation in 1973, and it has since been developed into a multi-access system from company branches, using later software, and procedures, built up over a period of some forty yesrs, with mechanical, electrical and software sids, which were world pioneers, in my view,

HAROLD W. G. GEARING Vice-chairma The Computer Journal Editorial

Elder sister of Ada

THE article about Chill by Philip
Hunter (CW, December 10) is PLI. Moreover, many of the good seriously misleading on two

points.

First: Chill has not been "sponsored and promoted by SPL".

SPL was commissioned by British
Telecom to design and implement
a Chill front-end. It would be more correct to say that British Telecom

is spoosoring and promoting Chill. Second: The actual question asked of me "by s delegate at a receos conference," was whether I thought there was a single feature in Chill which was better than corresponding features in other lan-guages. The answer to this question is io the negative, because the features of Chill are drswn from a group of other languages: Algol Abingdoo, Oxoo.

A final point. Your headline re-ferring to Chill as Ada's daughter would be more accurate if it addressed Ada so Chill's younger sister. Study Group XI of the CCITT started the activities which finally led to Chill in 1973, whereas the DoD HOLWG did not start its parallel activity until 1975. Both language definition appeared lo mid-1980.

more widely ocknowledged as the fine and advacced language it is. B. S. MOSSAKOWSKI SPL International

An ally, not an opponent

BEFORE accusing others of "projecting their prejudices" (Letters, January 7), Dr Nesl might care to read what they have written. He could then discover ao ally, not an

One of the main recommendations of my paper Learning for Change is a mojor reform of the University Graots Committee be-

cause "its current policy of foster-ing centres of academic excellence at the expense of the old college of advanced technology is disastrous

maoy graduate engineero and

Sale of installed machines

YOUR articles IBM Guessing
Game and IBM Suspends Sale of
Renoted Mainframes (CW, December 10) are misinformed and
factually incorrect. The facts are:

The level of Sale of Installed

The level of Sale of Installed (Sol) business is governed by predetermined inland Revenue limits. The tax coosequences of exceeding these limits would far outwelgh the benefits of Sol busi-

any other reason to restrict what sound business to our customer and ourselves. J. B. MORGANS

Liveware File

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"GO BACK THREE SPACES" ...

"GO TO JAIL GO DIRECTLY TO JAIL !



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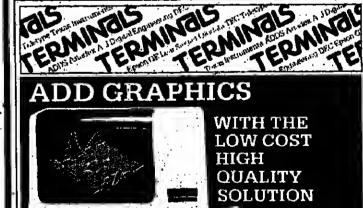
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systems



PROGRAMMERS PAGE I

Just to be different, here's a New Year's Cobol quiz

D. There isn't one

A. screen handling

A. Communications
B. Debug

B. structured programmin g

B. Part of the database facility

13. In the Cobol Metalanguage for?

A. to enclose reserved words

next standard?

It was first set to viaitors at the NCC stand at the Software Info 81 exhibition and won by Memoryn McMenemy from Glasgow by Memoryn McMenemy from Glasgow by Mervyn McMenemy from Glasgow, who programs in Cobol for Burrougha Machines in Answers next week.

1. What does CODASYL stand for?

A CODica And Symbolic Lan.

S. When was the current BSI Cn-bol Standard published?

15. What is the highest valid level number?

B. Conference on DAta Systems Languages
C. COngressional Data And
Systems Lobby
D. COnsmittee for Deriving A SYmbolic Language

2. When was the first specification of Cohol published?
A. 1955 B. 1960 C. 1965

3. Which Standard dld ANS 74 Cobol repisce?
A. ANS 59 Cobol B. ANS 68 Cubol C. ANS 70 Cobol D. ANS 80 Cobol

4. How msoy reserved there io ANS 74 Cobol? C. 308 D. 684

5. How many modules are there in ANS 74 Cobol?

A. Nucleus + 5 modules
B. Nucleus + 8 modules
C. Nucleus + 11 modules
D. Nucleus + 15 modules 12. What verb was superseded by INSPECT in ANS 74 Cobol?
A. EXAMINE 6. Who is responsible for validating Cobol compilers? B. TRANSFORM

A. US National Bureau of Stan-B. US Navy
C. Federal Compiler Testiog

D. ANSI

7. Who is currently responsible for the development of Cobol?
A. CODASYL Cobol Commit-

USAGES is non-standard?
A. COMPUTATIONAL
B. COMPUTATIONAL . ANSI X3. J4 Committee CODASYL and ANSI jointly D. CODASYL Program Lan-

I PROMISED you a Christmas quiz, but failed to deliver when the questions were frozen in the post. Sorry about that, bere is the quiz today.

Cumbernauld. He scored a handsome 18 out inf 20, while most of the 81 entrants managed just half, and scores of 15 or better were few.

9. Which one of the following features will be incorporated in the

NOPORSTUVWXYZ C. OVER-TIME-D. A----9

10. Which of the following is not an ANS 74 Cobol module? 17. Which of the following is a valid numeric literal?

SALES VARYING SALES-RE GION FROM 2 BY I UNTIL SALES-REGION > 10

C. A language element used for converting from ANS 74 Cobol D. An element scheduled for deletion from the following Standard

A. PERFORM offers better

for repested execution of a module C. CALL permits the use of

B. to enclose optional entries
C. to enclose comments
D. to enclose a set of alternatives Which of the following

C. RECORD KEY IS AC-

A. 3C B. ABCDEFGHIJKLM

A. 5 B. TEN

Ig. In the following statement, bow many times la ADD-SALES executed? PERFORM ADD-11. In the next Cobol Standard what will a "transitional language clement" be? A. Part of the portability mod-

19. Which of the following statements, relating to modules exe-cuted by PERFORM and CALL,

B. PERFORM has a mechanism

D. CALLed modules may be compiled separately

20. Which clause does not belong B. ACCESS MODE IS RAN-

D. LABEL RECORDS ARE

Down at the Town Hall a team of three works to give money away LOCAL government data processing departments bave to make the are unable to find maney for o the air of Harlaw's Town Halland

Systems analyst at Harlow Town Council, Sheila Langman, whose imminent departure on maternity leave has plant information services manager Martin Kaye in a difficult position since he is reluctant to employ contract staff.

most of meagre resources these days and most of them would gladly double in size overnight to satisfy piercing cries for more processing power.
Harlow Town Council has such

a department and the computer manager there, David Snell, claims that it offers more live ap-plications than most district councils, with a core of just three staff.

Certainly the computer, an ICL 2904, is heavily loaded, running a Philips each receipting system and ICL's home bills, repairs and naintenance package, as well as erminals dedicated to telecomput-

> Staffing of individual council departments is often a matter of what can be justified, and competition for cash can be stiff. The fight to keep a share of the receding overall budget is not an ununltisometimes want to offer up empty promises to the pagan god of

money.

Some council data processing departments resort to contract

permanent oppointment. But tak- it is difficult to ignore it. The ing contract staff is rather like tak-ing a bridging losn front o bank an expensive short-term expedient which should only be used in meet peak, or specialist requirements and not to keep plantum hend

Knye is strongly opposed to po-Besides, contract labour is ungrants end in particular to pendi-sation of those councils which for popular with the unions and must councils, including Harlaw, try and make do withum. Harlow does have two extra staff at the nument though, one of whant is a blind treated because high laters programmer using an Optacon terhargen out loans taken for recent minal, the other an NCC Thresdevelopment make them oppose ross overspenders.

Bennett's pride and joy is the IBM 3750 switching system hein plemented, which he claims he One of the senior data processing staff, systems analyst Sheila Langman, is soon to take mater-nity leave, and this reluctaoce tu take contract alass will be brought salved call charges in a year. Up necessary time-wasting number uch an the weather forecast are Harlow Council his the national banned by the system, as are trust calls before lunch. People who have no professional oced to make

press recently when it used the computer to identify some of its council tenants who had not claimed state benefits to which they were entitled. This resulted in 15 mostly old people receiving benefits worth over £50,000 in a year, usually £2 to £5 a week.

'If this was carried out nationwide, millions of pounds extra would be paid out," claims Tony Bennett of Harlow's commu-

nity services department.
So why bas this happened only at Harlow if it could help people in need elsewhere too? The reason in that Harlow has a successful welfare rights service on. One is the continual battle that local government faces to keep up with the trechnological explosion

with the motivation to ensure people get what they are entitled to, replies Martin Kaye, head of II services. Could the same procedure be used to gather up benefits claimed under false pretences?

"No" is the terso reply from Harlow. "We have no knowledge of what benefits are being claimed from the DHSS," says Kaye. So all that can be done is to identify some of those eligible for rent rebates who have not submitted claims for other benefits." claims for other benefits.

PUZZLER I

STIMULATED by last year's November 5 Puzzler, which involved wi
s search for the three-figure di
authors having the highest total of 3
divisors, Paul Barnesson of Chichester extesided the project to
5,000. He has now forwarded to
the principal of all 135 nembers
up to this figure having twentyleght or more factors (destring
the total authors made).

Barnetson found eight number with the maximum of forty-cith divisors (2,520, 3,360, 3,780, 3,960, 4,200, 4,320, 4,520 and 4,680). Strangely enough is this proposest every surplier except out. no printent every number except out to had an even total of divisors. This could be divisors the forty five divisors. Can you find the forty five divisors. Can you find the project turning to page 52? (There is a passed way as attack this problem.)

Listings of calls made from end

phone can be obtained, and there

enable Kaye to single out props who incline to verbosity. Some

would say this sounds as draconist

as the guvernment measures which elicit such anger at Harlow. Other

that it demonstrates Hatlow's will

euts into the flesh of welfare and

Kaye says that department man-

agers are elamouring for fre-standing micros to process lost information, in the knowledge that

they are common as calculators

The other point is the conings sage of IBM versus ICL for publication contracts. At Harlow its

lease on the ICL 2904 runt out is 1983. Fnilowing a strategy series in the ICL 2904 runt out is 1983. Fnilowing a strategy series in the ICL 2004 runt out is 1983. IBM may be in the ICL 2004 runt out in the ICL 2004 runt out is 1984 runt out in the ICL 2004 runt out is 1984 runt out in the ICL 2004 runt out is 1984 runt out is

invited to supply a tender.

elsewhere.

Is your 'Keep Out' sign just an invitation to intruders?

hands-free access control, in which

out again in time.

enot get in.
"It is the authorised users who

breach this ideal permanently locked state, and they are the vita

On access control: "The aim

when installing an access control system should be to simulate, for

the authorised user, precisely the altuation that existed before it was

installed, so that only the lotruder

The degree of protection re-quired for each door in an installa-uon depends on five parameters:

4. Whether the door is visible t

. How often the ares is empty.

The frequency of use of a door is often vastly under-estimated. At a site considering installing o Mastiff system, the DP manager was not

convinced that the computer room door was used heavily enough t

justify equipping it with access control equipment. When asked for his estimate of use, he guessed in the region of 50-60 operations

2. Size of the area beyond It.

notices the difference.'

. Frequency of use.

lem. Programmers, friendly Mastiff was formed in 1972 to though they were, habitually wan-dered into the machine room to provide a systematic approach to

clicck on the progress of their jobs. the authorised person can go about Eventually even the DPM nohis daily tasks without being encumbered by cards, keys, or easuced that they were getting under ily-forgotten passwords, while inthe effect that only operations staff were permitted in the suite.

This worked perfectly. For about a week. Slowly but surely the coders crept back. A more effective and permanent deterrent

And so it came to pass that The Security Door was installed. The corridor leading to the machine room was blocked by two lockes of simulated mahogany secured by a magnetic card lock. Only the fortunate few held the vital pleces of laminated plastic permitting access

However, owing to a sublime lack of foresight on the part of the management, the door separated the machine room from the canteen, the toilers, and the stationery teen, the toilers, and the stationery teen, the toilers, and the stationery teen, the toilers are too much chance of being the too

Store.

Once the novelty of the card keys had worn off, the door became an inconvenience to be blocked open by means of fire extinguishers or boxes of paper. No one is going to fumble for a key while carrying two boxes of four-

> The door was only restrictive when locked . . . anyone could piggyback through

The problem was that the man agement bad taken too simplisiic s view of the problem. Rather than inconveniencing only the unauthorised people, everyone, including those with every right of access, suffered.

Although the card key mechanism bad been sold to the DPM as

an access control system, it was actually sn access prevention system. Even so, the card lock failed to provide any degree of pro-tection to the "secure" covironmeot. The door was only restric-tive when locked. Even on the rare occasions when

It wasn't wedged open by frustrated operators, any intruder could piggy back through it by simply following someone. This was rarely questioned by the person being followed because only an idiot provided in the person being followed because only an idiot would allow the door to close, find his own card and then open it

Access prevention is relatively simple to provide. You set up a perimeter boundary, either a fence or locked doors, add a number o security guards, sit back and wait for the alarm bells to ring. This is perfectly adequate for

overnight protection when staff are oot moving about the premises, but for daylime security it fails in two important areas. First, authorised staff are incooveolenced by doors which require unlocking, either by card, numeric keypad, or oornal key, and second, the "protected" area is only secure while the doors are shut. Once a door is unlocked, staff and intruders are free to come: and go as they please.
The inconvenience factor makes

it extremely likely that staff will bypass locking mechanisms, not through any criminal tendoncies, out simply to make their jobs easter to perform. This is what hap-pened in the case of our cardlocked door.

One company which is marketing a better thought out system of access control is Mastiff Security Systems of Leatherhead I ity Systems or Leadern Coman alarm which is triggered every time it is opened and a person

Only the presence of a transmitter suppresses the alarm, thus in-truders cannot follow authorised persons through the door without

Porter explained his company's The transmitter is stored when philosophy by defining access prevention: "At night, the in-truder who succeeds in penetrating oot in use in a charger unit which replenishes its battery. Should the transmitter not be replaced in the the perimeter will, despite alarms, have some time in which to do his charger and secured by its unique high-grade key, the battery will be depleted within 24 hours and it will cease to function. Thus the work because of the time needed to respond to those alarms, and deinstallstion is protected against their theft. tection may therefore not be critical to him as long as he can get

walks through it.

The basic Masuff system can be extended to incorporate the "In working hours, the intruder concept of security zones or levels. must penetrate his target area, act Some staff may only be permitted and get out again undetected. If he to enter s work assembly area, for example, while others are enutled spends more than a couple of seconds fiddling with a busy protected door, he will be taking access to both work assembly and the computer room.

A persoo with the lower security clearance will be treated by the

Although the system has the capacity for many more, circumstances rarely dictate their use.

All the protected dours are mo nitured on a panel which shows range. Thus if a door fails to close owing to mechanical failure, someone can be desputched to investi-

will lock and not open even if a transmitter is present.

I asked what the future held for

access control systems and Porter replied that, in the short term, radio control was the most cont-

"Possible future methods are identification by sniell, extrasensory perception or visual recognition, but whatever the method, hands-free is the future of



Rapid Recall Request the Pleasure of Your Company at the

The minicomplier leaders, Digital Equipment and Control of the Introduction should be in the Introduction of the Introduction

The minicompliser leaders. Digital Equipment Corporation (DEC): ere introducing thelicities. OEM single-board computer. This is an event of such major importance that we are holding a saries of sentinars to keep you informed:

Is a new low-cost single-board gomputer
ILSI-11/21) for the OEM, it is becked by DEC's
itselve resources and fully supported with the
injost comprehensive range of software and
development equipment in the industry. A
devalopment of the proven 16-bit USI-11
complete with memory and I/C, the new board
sets new atandards in off-the-shall system.

Porter put a device on the door The Semigrars:
The semigrars is included to the course on the second releted produces to allow you to bring yourself op-to-date with this important development. They are being held in five different verture around the country and the damand is expected to be high. The number of datagates we can accept to light of the spece evellable at each verture as back in the day and a place. to count the number of openings which turned out to be over 1,500 the door remaining open for average of seven seconds. This meant that the door was open for

three hours a day.
With an ordinary card key system, no protection would be afforded the machine room for this

Whatever the method, handsfree is the future of true access control

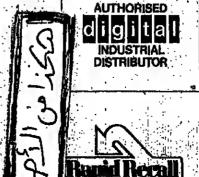
The last four parameters can b grouped together, as they reflect the level of security inherent in the area. If there are only one or two staff, there is a very good chance that if they see an intruder, which will depend on the size of the room and the visibility of the door, they will challenge him to the grounds that if he has any business in the room, it will be with them.

If there is a larger number of employees, as would be the case in a computer room, the chances are that everyone will assume the intruder is with one of his

workmates.
The Mastiff system works by equipping each authorised employee with a short-range radio transmitter which unlocks each door as he approaches it, by means

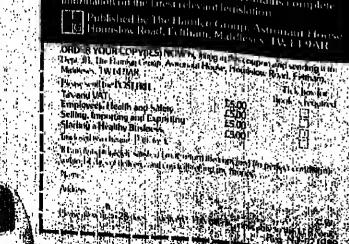
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thors who are altrop experts

SOFTWARE MONTH

COMPUTER WEEKLY'S SOFTWARE SUPPLEMENT

column by consultant Devid Ferris on the increasingly important business side of software and the companies which market it.

PROGRAMME FOR 1982

February 25: Annual softwere review March 18: Networking softwara April 22: Database May 18: Financial and project planning. June (0: DEC eysterns July 15: Payroll package August 12: Integrated Office softwere

Computer Weekly was the first general computer journal to give software its own space when Software File was introduced for weekly news reports Now the time has come to expand the coverage further. Edited by our Software Editor Claire Gooding, Software Month will devote its whole coverage to one subject each month. The topics are listed below. Sut included each month will be a name round-up, highlighting important events of the next month and,

January 141 ICL systems software

Saptember 9: Program productivity - program gehera-ters and high-level languages ters and right lever languages
Debet 7: Word processing
Novembet 4t/Chy software
December 2: CAD/CAM and scientific software

Safe MD aims for '£15m turnover'

AlMING in turn Safe Computing jobs — marketing development from a £4 million turnover company to a bigger operation with a £15 million turnover within 10 created, and will be filled from

and centralise the organisation.

The divisional structure of the company bas now given way to a system where all line responsibilities are centralised within a sixman management team, reporting to the managing director. Sales, product development, marketing and financial control fur Safe's software business are now directly

outside the company.

includes Ken Jackson (general manager, bureau); John Evana (general sales manager); Peter Rhodes (product development) manager); and Bryan Neal (micro project mansger). All previously held senior management positions

ler and company sectetary, is one of the two external appointmenta.

Designer promoted

Wright was an electronica me-trologist with PIRA (Printing In-lsed in the 5000 Series drives.

Ralph Moore, financial control-

Tilli board of Vermont Research las elected Terry Wright as technical director, in recognition of his work in leading the team of 20 responsible for developing the company's recently announced 8000 Series of Bin cartridge disc drive computer memories.

Wright was an electronica memorial dustry Research Association) before becoming Vermont's first employee, when the company was promoted from senior project engineer to engineering manager in 1975, and was responsible for perfecting the embedded servo positioning technique, first util-



national sales manager for test and

measurement products at Tektro-nix UK. He has been with the

company for more than 20 years and has previously held positions in European and International

marketing departments in Guem-

sey and the US. Graham Wil-

liams, who joined Tektronix in 1980, is national sales manager for

the company's computer graphics equipment and Mike Bundred,

who joined the company from Hewlett-Packard in 1979, has been

amed Southern district sales

manager for computer graphics

Richard Walker, who bas spent

the past two years selling commercial programs for United Computing, has been appointed sales manager at UCC's Business Division.

Also joining the company is Gareth Edwards, who becomes sales

executive for business systems in





the Midlands. He was formerly with Datasaab selling turnkey

Peter Gottlieb has joined

Prime's London West branch as

sales executive. He joins the com-

pany after 10 years at Computer Technology. Sales executive in

■ Peter Pole has been appointed sales executive for the East Midlands at ABS. He was previously

■ Rnnnle Murphy and Simon Peacock have joined Positron as

with Hoskyns and Safe.





■ Alan Goodale has joined P&O Computer Services as head of the company's new rectuitment dividevelopment engineers. Murphy takes responsibility for a continuing programme of enhancements to the Positron range and Peocock is responsible for software design. sion. He was formerly a director of a Midlands recruitment consultancy and has also worked as personnel manager for J. Lyons, Automotive Products and Tube

Ferranti names 3

Simpson, formerly with IBM mmereial Union Assurance and ICL, becomes branch manager at the company's Walton-on-Themes office. Robinson, who previously worked with Jacquard, NCR and Xerox systems, is special projects

Prime's government district is Paul Groves, who joins from Bur-roughs Machines where he was a ■ Kon Coulter has been appointed marketing director of Rediffuzone sales manager at the Slough company in 1977 as product manager and served most recenily as general manager, marketing.

directors

FERRANTI has named three new directors, appointed to the main board of the company. Robin Broadley, a nnu-executive direcbroadiey, a finitexecutive director, is managing director of Baring Brothers which he joined in 1971. Between 1964 and 1971 he was a partner with London solicitars Al. lcn & Overy.

Charles Scott has been with Ferranti since 1979, when he joined as deputy controller of finance, becoming controller a year later. Before that, he was with chartered accountants Price. Waterhouse and Co. The third new ditector is Fer-

ranti vetetan Alan Sbepberd, who has been with the company for 28 years. He joined to initiste work on semiconductor devices, becoming chief engineer of the division concerned. He is now MD of Perranti Electronics and chairman of the Ferranti California Group.

■ David Smlib, who bas been with London Transport since 1966, has been appointed computer systems development manager for the argunisation.

DIARY I

IANUARY 19

Information processing, a special meeting in conjunction with the Which Computer show. 1DPM Birmingham branch. Wheatsheaf Hotel, Coventry Road, Sheldon, Birmingham. 7.30.

Image and generation simulation. IEE. IEE, Savoy Place, London. 5.00. Details from IEE

Prestel. IEE. Brunel University, Uxbridgo, Middlesex. 7.00. De-tails IEE.

The 1T year. BCS Microcomputer Group. London Institute of Education, 20 Bedford Way, London. 1.30. Details from Boh Glsbey on (0634) 44400, ext 612.

Meeting. IBM Computer Usera'
Association Management Group.
Birminghom Metropole Hotel,
National Exhibition Centre, Birmingham. Details from Mts
Speciale on 01-551 [643.

JANUARY 21 Mceting. IBM CUA Operators Problem Determination Local area networks and the Cambridge Ring. BCS Aberdeen branch. College of Commerce, Workshop, Grand Hotel, Bristol. Details from Mrs Speciale on 01-Holbutn Street, Aberdeen. 7.00.

Initial meeting of the Sussex Microcomputer Group, BCS, King & Queen, Marlborough Place, Brighton, 7.30.

Machine Translation in ITT.
BCS Natural Language Translation Group. Room 3B18, King's
College, The Strand, London. Effective progress towards fac-tory automation. BCS Belfast branch. Queen's Common Room; 1 College Gardens, Belfast, 8.00.

ANA ond communications protocols, BCS Data Communica

Micro and computer networks. BCS Manchester hranch. Room E7, Renold Building, UMIST, Manchester. 6.45.

The science of management BCS Prestnn and District branch. St John's Tuvern, Blackburn.

Linking micros. BCS South Walea branch lu association with Gwent Amateur Computer Club Stotistics Office, Nowport. 7,00.

Medical Computing, BCS Wal-verhampton hranch, Council Rnom, Wolverhampton Polytech-

fashion.
Unfortunately, Mr Gauthier's Earth leakage protection as sp-plicable to 15th edition of the wir-ing regulations. IEETE. Waterloo-ville Community Centre, Waterlooville, Hants. 7.30. book has serious defects which preclude its cunsideration as a can-didate for meeting the above re-This book appears to have been

too hastily produced. While the book was type set using Don Knuth's Tex system on Unix, it could have benefited from the application of other Unix tools, espe-

cially those for spelling correction. At many places in the text, Gauthier's formatting has gone awry; and for the Unix users with some experience, it may be amusing to speculate what the author intended, but the uninitiated will simply find this confusing.

Computer Networks and Distri-buted Processing: Software, Techniques and Architecture.

James Martin. Prentice-Hall, New Jersey, £25.50.

"WHEN a computer program says

GET, it may be accessing a file

unit attached to a computer a thou-

sand miles away," points out James Martin early on in this well-

informed, didactic presentation.

But in the new technology of

distributed processing, where in-telligent machines in different

locations co-operate by means of

networks, how do you cosure cum-patibility of the distributed

systems?
The book covers descriptions of

many types of networks and distri-

buted processing configurations, and explains the architectural

concepts. Very thoroughly it goes

LITTLE Introductory literature for new users of Unix exists which

textbook which brings together such material in a comprehensive

To use the Unix system effectively, some understanding of the Unix design philosophy la de-sirable, but in his text Gauthier confines himself to the simple enumeration of commands with illustrations of their usage. His choice of commands and grouping of

Using the Unix System. Richard
Gauthier. Reston Publishing
Company Inc (Prentice-Hall),
1981.£14.20.
them in the text is haphazard to say the least. Gauthier does not even attempt to cover the programming of C; nor does he give any account of the excellent documention aida available.

Slow-moving Europe

will be left far behind

and secrecy.

in network development

ways of dealing with errors or failure as well as ensuring privacy

It is generously illustrated, and a valuable feature for aiding compre-

heusion is the layout which picks

out factors involved in appraisals, displaying them clearly in a "box".

For example, to show why dif-ferent architectures are needed for

telephone users and users of com-

puter networks, the respective characteristics are listed alongside

each other in such a box as well as being discussed in the narrative

A similar opproach is used in assess the advantages and disad-vantages of layered orchitectures,

And the author is bold enough

to discuss the future of network

and in many other cases.

on to portray the mechanisms used in networking before setting out of electronic components in an in

Beginners won't learn

about Unix this way

year) coatinue to hold good? Eco-

The section goes on to examine

soch factors as standards, virtual circuits, packetised voice using high capacity circuits (1.544 mil-tion bps) for transmitting tele-

phone conversations, and integra-

tion of systems - copying

transmitters, word processing

contempt for slow-moving

Europe, believing that US de-

velopments will greatly increase the productivity of their office workers, professionals and execu-

uves leaving us poor Europeans

Israel Berkovitch

machines doubling as computerminals and the like.

does not already assume an ele-mentary knowledge of computing. A few sections of the Bell Labs It is this lack of empliasis on the Unix programmer's manual are explicitly aimed at tyros, but the completely uninitiated may feel book's major defect, as it is this view of an operating system as a more at home with an introductory programming support environ-ment which makes Unix impor-

est in the book (75 pages out of a total 297) and it contains some use ful suggestions, but it seems out o place in what is primarily a book for beginners. A student user of Unix in SWURCC who found 100 pages and resorted to skim-ming found this chapter usefully consolidated his understanding filestore maintenance, but It is un likely that readers requiring four pages on how to log in and use

To paraphrase Bob Dvlan Unix beginners, this isn't the book you wanted, it's not the book you need! My advice is to keep or reading the Unix programmer manual; there's a lot of it, bu there's a lot in it.

Cornelia Boldyreff
South-West Universities
Regional Computer Centre

Graphics still fascinate

A Practical Introduction to Computer Graphica, Isn O. Angell. Macmillan Press Ltd. 146pp.

mensional geometry with appro-priate matrix representation hold n ascination for the amateur and professional DP person alike. This interest can be observed by the crowded graphics stands at major computer exhibitions.

A Practical Introduction to

Computer Graphics is a technical computer book which, for once, does not suggest that readers of all levels and Interests will benefit. In fact, readership qualifications are clearly defined at the start: "It is assumed that the reader has an elementary knowledge of the Fortran IV programming language,
and of cartesian co-ordinate caution.

Alan Simp geométry,"

. That certainly eliminates many

The author admits to baving had Series. It is to be boped that the algebraic algorithms do not con-

Full of sound advice

Computers and Word Processors: A Guide to the Electroni Office for Practising Lawyers. Meith R. James and Neil M. Msybury. Society for Computers and Law, September 1981. 27pp. £1.00.

is generally supposed that the legal profession is slow to ebange, is unwilling to adopt oew ideas and is antipathetic tn all forms of technology. The fact is that a substantial minority of lawyers has embraced the advantagea of computer ayatema with marked enthusiasm. Some lawyers have introduced computers o their offices with commend-

For that larger number who have yet to get to grips with cumputer technology, this slim booklet will be of great help. Written by two Cnuncil members of the Society for Computers and Law with long experience of the subject, it is full of sound advice.

THIS is essentially a practical manual. One of the authors found himself in the situation of laving to teach himself programming techniques and the other used his knowledge as a computer engineer to help him. Together they have written this hook for anyone who has to learn to program an Apple II microcomputer without the advan-tage of asking questions of some-

one more experienced. The authors assume that the siudent is a complete beginner and start with basic instruction, but their practical approach means that the book will be suitable only for those who have free occess to a

Section I deals with the Apple soft language. The first chapter teaches how to load and save programs, starting with a voca-bulary list to explain terminology and proceeding to give step by step instruction to the student, who learns each stage by keying in the Bryan Niblett program and seeing the results.

Hands-on manual for Apple users The apphors then use a similar

procedure to explain other funda Blackwood, Howard W. Sanis & mentals like printing, output, th use of variables, precedence i arithmetic, loops, decisions and flowcharting, giving the student gradually more involved example

The remainder of the first sec tion deals with more advanced procedures and methods of in creasing programming efficiency In facilitate reference within th section, each of the twenty char ters summarises the skills the stu dent should have achieved by the

The next six chapters concern more general aspects of program ming and aim to troin the studen to think methodically hefor starting to code. The section con tains guidance on lugic, progron llexibility, number systems and use of advanced procedure like searching sorting and sul

The manual will necessarily he nf limited appeal, but could prove an ideal companion to a lone Applesoft student.

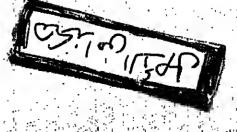
Rosemary Shepheard Freelance journalist

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CONFERENCES tion engineering, from CAD/CAM to numerical control, and from in-

dustrial robots to the automatic factory have been rapid during the last few years. The International Summit on Automated Manufacturing has been organised by Automation and Engineers' Digest in co-operation with the Machino Tool Industry Research Association and will be held at London's Mount Royal Hotel on Pebruary 18 and 19. Topic areas are concepts and systems; computers in production: computers lew years. The International ters in production; computer-aided engineering and the auto-matic factory. Fee is £138.00 + VAT, or £72.00 + VAT for one day only. Details from the confer-ence secretary, Engineers' Digest, 2. Serjeant's Inn, London ECAY 1LU. Tel: 01-353 9751-8.

A ROCKWELL microprocessor seminar has been organised by RCS Microsystems, to be held on Pebruary 5 at the Master Robert Hotel, Houndow, Middlesses. It is sined at engineers seeking to utilise microprocessor systems in industrial and laboratory control and instrumentation applications.

will include practical training with the AIM65 and AIM65-40 development systems. Fee is £15. which includes documentation, lunch, and tea. Further informstion from Jerry Sandya at RC Microsystems, Gresham House, Twickenham Road, Feltbsm, Middx TW13 6HA. Tel: 01-898

Metropolitan Police command

and control system. BCS Central

London brancht. Charing Cross Hotel, The Strand; London.

THE concept of office automstion will be discussed at Frost and Sullivan's Office Automation and based management consulting company which specialises in information systems planning and implementation. Further information from Amanda Fraser, Frost and Sullivan, 104-112 Marylchone Lane, London WIM SFU, Tel.

Integrated Information Processing Support Systems seminar, to be held in London from March 17-19. It aims to show the decision makers of an organisation an integrated sporoach to office sutoma-tion, identifying its benefits and reviewing some of the more ad-vanced product offerings. The seminar will be led by Brian Blackmarr, director of a Dallasbased management consulting

potential readers, except of course Macmillan Ptess Ltd. 146pp.

THE relationships between undergraduates at London Univerpoints, lines and planes in 3-districtions and planes in 3-districtions.

his life changed by the discovery of computer graphics. This enthu-siasm is certainly evident in this well constructed and produced book, which is published as part of tain misprints such as on page one where tackle is spelt tacked

The production of computer graphics suggests the author is loaded with mystique and has gained a reputation for complex ity. A close study of the book

Alan Simbson

Mainframe users give thumbs-down to ICL and NCR

major British survey of users' satis-

IBM scored relatively highly in hosti mainframe and minicomputer categories, while Burroughs was at the bottom of the minicomputer ratings and scored badly among mainframes.

The satisfaction results are from the 1981 Computer Weekly/Data-pro user survey carried out late last

The survey is the second of its kind — one was carried out in 1980 — and unique in that it sets out to test user satisfaction with systems, not just to assess what hey have installed.

The company has declared its in the number of participants in the aurvey as indicated in Table 1 understates the actual number of aystems in use as some users run do what you expected it to do?", showed most mainframe users the actual number of aystems in use as some users run multiple installations.

the survey would not recommend their systems to other users. This does not bode well for the company at a time when it is trying to. restore confidence among its users.

ICL is the worst hit of all the manufacturers in this respect, with only 55% of its users saying they

would recommend their system, while 12% remained undecided. NCR also performs badly with 32% of users saying they would not recommend their systems, al-though 59% said they would, and

Table 1 - Number of participants in the survey

MAINFRAMES

MINICOMPUTERS AND SMALL BUSINESS

Name of manufacturer

Vational Advanced Systems

Control Data

Total

rioneywell
Data General
Datapoint
DEO
Diablo
Digico
Forranti
GEC
Harris
Hewlett-Packard
IBM

IBM
ICL
Kicnzle
NCR
Perkin-Elmor
Philipe
Prime
Roir
Systime
Tozok Instruments
Univec
Wang
Others

ICI. and NCR have received the thumbs-down from a third of their mainframe users, according to a cided. For miniomputer users, Manufacturing industry also compared their systems while vice bureaux (8.7%) and retail/wholesale (8%).

Manufacturing industry also compared their systems while vice bureaux (8.7%) and received the thumbs-down from a third of their systems while vice bureaux (8.7%) and received the thumbs-down from a third of their systems while vice bureaux (8.7%) and received the thumbs-down from a third of their systems while vice bureaux (8.7%) and received the thumbs-down from a third of their systems while vice bureaux (8.7%) and received the thumbs-down from a third of their systems while vice bureaux (8.7%) and received the thumbs-down from a third of their systems while vice bureaux (8.7%) and received the systems while vice bureaux (8.7%).

would not recommend systems meering/scientific (8%).
was Burroughs (22%), slihuugh
70% reacted positively.
The most popular la
mainframe and mini-

commented on the low ratings while microcomputer users gener-which Burroughs appears to be consistently dogged with, and al-

do what you expected it to do?", showed most mainframe users expectations as having been hroadly fulfilled. NCR again fared hadly reistive to other manufacturers with 18% of its users replying questionnaire designed by the US-based Datapro Corporation.

Similar user surveys were conducted in France, West Germany and in the U8 in co-operation with the leading computer publications in those countries.

One-third of ICL users polled in

gory with 91% of users recommending their systems, followed by 85% for DEC, 81% for Prime, 77% for ICL and NCR, 70% for Data General and 69% for Hopennell

Honeywell.

Manufacturing industry is still the bread-and-butter of the coverall rating at 3.27 in the coverall rating at 3. Manufacturing industry is still the bread-and-butter of the majority of computer manufacturers, with the exception of ICL which has cornered a substantial part of the market for government contracts, the survey shows.

2.97 out of 4.00 respectively.

The IBM System 38 gets a fair overall rating at 3.27 in the minicomputer category, as does the System 34 with a rating of 3.36, while the System 32 single-user system is somewhat less the company's low average rating from usera who responded to the survey. Overall satisfaction has a survey. Overall satisfaction has a survey. Overall satisfaction has a survey on the system 34 with a rating of 3.36, while the System 32 single-user system is somewhat less.

The 2956 fsress slightly better

contracts, the survey shows. Twenty-five percent of mainsough 59% said they would, and were undecided.

Eighty-six per cent of 1BM'a survey are in manufacturing industry, followed by hanking and finance (9%), government (9%), ser-

the respective figures were 82%, forms the largest number of minicomputer users who res-The other manufacturer with a ponded, st 26%, followed by resignificant proportion of users who tail/wholesale (15%) and engi-

The most popular language for mainframe and minicomputer Last year Computer Weekly users is, not surprisingly, Cobol,

Amdahl

Honeywell Level 66

IBM 3031

· 1BM 3033

ICL 2960

NAS !

NCR

DEC.

users in this category who responded said they would recom-

mend their system to others.

The proportion of IBM users vey, the largest

users who responded are on Cobol, 24% on PL/1, 13% on Assembler

ICL'a 2946 medium-sized mainframe is the main contributor to the company's low average rating

recommend it to other users.

The 2956 fares slightly better with a rating of 2.90 for overall popular with a rating of 3.00 out of 4.00. On average, 86% of 1BM satisfaction, while the older ICL

ed said they	would recom-	- ICL main	frame 1	isers fo	m the		Burrot
their system e proportion	to others. of IBM users	second large vey, the l	est samp argest	ole in t	he sur-		Honay DPS 4
	– User Rat	ings, large i	mainfi	ames			Data Gener Bellps
ianufacturer & Model	Overall satisfaction	Applications programs	a) 7 b) I	Support Froubles Education	booting		DEC PDP-1
 			c) I	ocume	rution ·		DEC
			8	ь	e		Hewle
dahl	3,33	3.00	4.00	3.00	3.00		HP300
roughs	2.75	-	2.38	2.13	2.13		IBM Systen
ntrol ta	214						ICL M
	3.14	2.67	2.14	2.14	2.57		NCR
neywell Jel 66	3.22	2.71	2.44	2.25	2 22		Prime
C.	3.57	2.71			2,33	. 1	A ATIME
A 3031	3.00		2:86	2.14	2.86		191
4 3033		2.50	2.50	2.50	2.50	ľ	Tab
	2.67	2.00	2.00	.2.67	2.00	-	Mani
2960	2.50	1.75	2,17:	2.50	2.08	٠	&
S	3.50		3.00	2.00	2.00	٠.	
*	2.88	2.50	2.40	2.80	2.83		-
vac 1100	2.57	1,80	1,86	2.33	2.57	,	Des
	the state of the s				4.54	1	Burro

Cutvate 1100	2.57	1,80	1,86	2.33	2.57
Table 3 — U	ser Ratings	, medium s	ize ma	infra	mes
Manufacturer & Model	Overall satisfaction	Applications programs	a) 7 b) I	Support roubles ducation	honting
Burroughs			9	ь	e
B2800	2.25	2.50	1.25	1.50	1.75
Honeywell Level 64	2.89	2,20	2.44	2.44	2.50
IBM 4331 IBM 4341	2,90	2.48	2,23	2.39	2.48
1CIL 2956	2.97	2.85	2.42	2.63	2.53
ICL 2946	2.90	2,50	2.30	2.60	2.60
NCR 8500	2.00	1.80	1.83	2.33	1,83
Univac	2.80	2.71	2,00	1.90	2.70
Series 90	271	1.50	2.60	1.86	1.71



counterparts. Seventy-aix per cent

said they would recommend their

systems to other usera, with 10%

saying "No" and 13% undeelded. Eighty-six per cent said their systems did what they expected.

who responded to the survey from manufacturing industry is slightly higher in the minicomputer category (40%) than in the mainframe category, followed by 14% in retail/wholesale.

Fifty-three percent of IBM's which are in government (21%), followed by 17% in manufactur-ICL small business users were somewhat more enthusiastic about

and 6% on RPG.

1CL users represent the largest sample in this eategory, of which 32% are in manufacturing industry

Manufacturer & Model	Overall satisfaction	Applications programs	[b) l	Support Frombles Education Jocumen	houting
			g	b	C
Burrougha	2.50	2.67	2.00	1.50	1.50
Honaywell DPS 4	2.83	1.67	1.83	2.33	2.00
Data General Ecilpse	2.82	3.00	2,73	2,45	2.36
DEC PDP-11/90	3.12	2,39	2.32	2.25	2,39
DEC VAX II	3.13	2.67	2.86	3.25	3.00
Hewlett-Packard HP3000	3.14	2.78	2.31	2.57	2.71
IBM System 38	3.27	3.17	2.45	2.36	2.91
ICL MR29	2.68	2.50	2.37	2.67	2,58
NCR 8200	2.81	2.63	2.16	2.44	2.36
Prime 750	3.40	2.75	3.40	2.60	2.60

Table 4 - User Ratings, large minis/small

mainframes

In terms of user support, Bur-roughs is still clearly at the bottom of the pile against other mainframe

manufacturers despite recent

moves by the company to improve

Users have given Burroughs an average rating for all mainframes of 2.19, 2.08 and 1.93 out of 4.00

5 2,	00 2.67 17 2.50 00 2.00 40 2.80 86 2.33	2.08		Manufacturer & Model	Overall satisfaction	Applications programs	4)7	Support	
		-	4				· bil	Educatio	T
			1:1				. c)1	Ducumen	notion
1. 1. 1. 1.	oo		ľ					b ·	c
		4.77	1	Burroughs B80/B90	2.00	2,20	1.60	1.20	1,20
ım size	mainfr	mes	11	CMC Reality	3.00	2.71	2.29	2.64	2.50
tions ms	Suppor a) Trouble b) Educati	shonting		Honeywell Level 6	2.67	2.00	2.08	2.00	2.50
	c) Docume	ntation		Data General					
	Ь	₩ e.	П	Nova	2.75	2.67	2.67	2.67	3.25
0, 1.	5 1.50	1.75		DEC PDP-11/34	3,14	2,59	2.63	2.36	2.34
	2,44	2.50		Hawlett- Packard	3.00			1.	2.40
2,2	3 2.39	2:48		IBM		4.59	2.00,	1.13	40.45
2.4	2 2.63		П	System 34	3.36	2.93	2.74	2.91	3.08
		2.60	И				100		
	3 2.33	1.83	ľt	The state of the s	. 3,00 ;	2.80	2.67	3.17	3.17
2,0	0 1.90	2.70		System 10	3.00	244	7.55	2.69	2.38
2.6	0 100	1		Prime 550	3.00		-		.2.22
		1.3.		Systime 5000	2.75 ***			2.13	2.00
	2.2 2.4 2.4 1.8 2.0 2.0	2.23 2.39 2.42 2.63 2.30 2.60 1.83 2.33 2.00 1.90 2.60 1.86	2.23 2.39 2.48 2.42 2.63 2.53 2.30 2.60 2.60 1.83 2.33 1.83 2.00 1.90 2.70 2.60 1.86 1.71	2.23 2.39 2.48 2.42 2.63 2.53 2.30 2.60 2.60 1.83 2.33 1.83 2.00 1.90 2.70	2.44 2.44 2.50 Packard 2.23 2.39 2.48 IBM 2.42 2.63 2.53 EBM 2.30 2.60 2.60 System 32 1.83 2.33 1.83 ICL 2.00 1.90 2.70 System 10 2.00 1.86 1.71 System 5000	2.44 2.44 2.50 Packard 3.00	2.44 2.44 2.50 Packard 3.00 2.50	2.44 2.44 2.50 Hawlett-Packard 3.00 2.50 2.00 2.23 2.39 2.48 IBM 5ystem 34 3.36 2.93 2.74 2.30 2.60 2.60 System 32 3.00 2.80 2.67 1.83 2.33 1.83 ICL System 10 3.00 2.54 2.55 2.00 1.96 2.70 System 10 3.00 2.14 2.06	2.44 2.44 2.50 Hawlett-Packard 3.00 2.50 2.90 1.75 2.23 2.39 2.48 IBM 3.36 2.93 2.74 2.91 2.30 2.60 2.60 System 34 3.36 2.93 2.74 2.91 1.83 2.33 1.83 ICI System 32 3.00 2.80 2.67 3.17 2.00 1.90 2.70 System 10 3.00 2.54 2.55 2.69 2.60 1.86 1.71 Systime 5000 2.75 3.00 2.14 2.00 2.25

USER SURVEY 1981

IBM tops the ratings

for troubleshooting, education and documentation respectively. In the case of the B2800, ratings are even lower (see Table 3), while larger Data equipment who respond mainframes do little better.

In the minicomputer category, 60% of users said they would recommend their systems to other users, while 27% said they would

Over half of the Burroughs maioframe users (52%) who replied to the survey are split evenly between banking/finance and re-tail/wholesale with manufacturing users in third place at 19%. In the minicomputer eategory, half of the Burroughs sample is split equally between manufacturing and re-tail/wbolesale.

Plug-compatibles

National Advanced Systems saustaction with a rating of 3.50, followed by Amdahl with 3.33.

NAS also scored high on ease of conversion with a user rating of 4.00, and a rating of 3.50 for ease of programming.

DEC mainframe users, mostly in education, gave their systems an average rating of 3.57, the greatest overall satisfaction for all manufacturers, although only seven responded to the survey.

of programming.

Amdahl leads the field in techni-

pectively.

But the size of the user samples for both manufacturers should be taken in the context of these ratings - three for Amdahl and four for NAS.

NCR

The largest proportion of NCR mainframe users who responded to the survey are in manufacturing industry (27%), while minicomputer users show a strong retail manufacturers wholesale bias (36%).

Users of large NCR mainframes gave the company a rating of 2.88 for overall satisfaction, followed by a rating of 2.80 for the smaller 8500, and 2.81 for the 8200.

However, NCR gets a high score on reliability of mainframe with a rating of 3.33 for mainframes. NCR minicomputers win a high rating of 3.19 for ease of operation. The poorest rating is given on the NCR 8500 for education (1.90), although Univae's Series 90 equivalent does even worse with 1.86, and Burroughs is the lowest at 1.50.

Honeywell

· Honeywell mainframe users comprise the third largest sample and constitute the highest propor-tion of users in manufacturing industry, with retail/wbolesale users

Univac

Univae users show a manufac-turing industry biss at 24%, fol-lowed by 12% in each of the following market segments: retail/wholesale, services bureaux

frames category (1.71).

Of the seven users of Control Data equipment who responded to the survey, five are in education while one each is in engi-neering/scientific applications and

Users give Control Data an overall satisfaction rating of 3.14. Four users recommended the system, while two did not and one

Control Data achieves the second lowest ratings for troubleshooting after Univac

Digital Equipment (DEC)

ponded to the survey.

Eighty-five per cent of DEC mitucomputer users recommended amagni leads the field in technical support, with users giving the company a ''perfect'' rating of 4.00 for troubleshooting, 3.00 for education and 3.00 for documentation, while NAS lags behind with ratings of 3.00, 2.00 and 2.00 respectively.

the company a rating of 3.08 out of four for overall satisfaction, and 89% said the system did what they expected of it. The highest rating was given to reliability of mainframe (3.28), while troubleshoot-Ing got a low rating of 2.52, and education even lower at 2.39.

Other mini

Hewlett-Packard users show manufacturing bias at 41%, with education and engineering/aelentific each representing 12.5%. Hewlett-Packard had the highest proportion of minicomputer users who recommended their systems to other users (91%). Reliability of to other users (91%). Reliability of mainframe gets a high rating of 3.68, while troubleahooting gets low ratings of 2.21 and 2.00 for the HP3000 and HP1000 respectively. Education on the HP1000 is second lowest (1.75) only to Burroughs B80/90 with an appallingly lowesting of 1.20.

roughs' B80/90 with an apparatury low rating of 1.20.

The manufacturing bias is less apparent with Data General users, 24% of which are in this aegment, followed by 14% in retail/wholesale. Seventy per cent of Data General was recommended their eral's users recommended their systems, and 83% said it did what they expected it to do. The highest rating (3.28) is given to ease of

dustry, with retail/wholesale users making up second place at 12%.

Honeywell's Level 66 top-end mainframe achieves an overall-satisfaction rating of 3.22, while the medium-sized Level 64 lags behind at 2.89. The smaller DPS4 gets a rating of 2.83 and the Level 66 minicomputer drops to 2.67.

The overall satisfaction ratings belie lower ratings on finer detail auch as education for instance where the Level 66 achieves a rating of only 2.25, while the gap appears to narrow on the Level 64 with a rating of 2.44 for education.

Troubleshooting on the DPS4 is a mere 1.83, even lower than Burroughs rating of 2.00.

The highest rating (3.28) is given to case of operation.

Prime has a strong showing in the education market, constituting 13% of its users, with 77% saying the systems and 85% saying the systems did what they expected. Hase of operation.

Prime has a strong showing in the education market, constituting 13% of its users, with 77% saying the systems and 85% saying the systems did what they expected. Hase of operation.

Prime has a strong showing in the education market, constituting 13% of its users, with 77% saying they would recommend their systems did what they expected. Hase of operation.

Prime has a strong showing in the education market, constituting 13% of its users, with 77% saying they would recommend their systems and 85% saying the systems and 85% saying the systems and 85% saying the systems and 85% saying they would recommend their systems and 85% saying the systems did what they expected. Hase of operation.

Four out of 16 Systime users who responded to the aurvey are in the engineering/scientific market. Systime scored 2.00 for documentarion, second lowest only to Burrowshit and the properties of the systems an

tation, second lowest only to Bur roughs with a rating of 1.20.

Programming languages

and transportation.

A rating of 2.57 was given for overall satisfaction to the large Univac 1100 series mainframes, while the medium-sized Series 90 got a rating of 2.71.

The Univac 1100 gets the lowest rating for troubleshooting in the large mainframe category (1.86) and the lowest rating for doctimentation in the medium-sized mainframe. Fortran is the fourth major language. Fortran is the fourth major language.

guage, having been adopted by

86% of Control Data users and 57% of DEC users. Fifty three per cent of IBM's users are on Cobol, 24% on PL/1, 13% on assembler and 6% on RPG. The proportion of minicomputer users on Cohol is substantially smaller at 32% than that of mainframe users, while RPG at 21% and Besic at 19% gain prominence with mini users. nence with mini usera. nence with mini usera.

Cohol is the major language for users of ICL (55%), Honeywell (92%), Hewleti-Packard (72%), and Burroughs (81%) minicomputers and small business systems.

The proportion of Data General users running Cohol is the same as those running Basie, that is 28% for both languages, while the main language for 47% of DEC users is Basie. Basic is also run by 94% of Systime users and all CMC users in the sample.

Basic is the primary language for 74% of microcomputer users, followed hy assembler (11%) and then Cobol, Fortran, Pascal at

(Datapro will publish the complete results of the survey in a report, British User Ratings of Computer Systems. Copies of the report, at 50 Swiss trancs each, may be ordered from Datapro Services S.A., CH-1164 Buchillon, Switzerland)

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Claire Gooding edits this month's special feature on ICL's sometimes controversial operating systems



which always gives rise to gossip: loved or hated, but not ignored. It has produced machines and soft-ware to rim at them which have

When loyalty becomes a problem

tract gossip, the company is full of contradictions.

harshest critics (sometimes those whose livelihoods depend on ICL), at ill adhere faithfully to its machines and operating systems.
The operating systema particularly are controversial: ICL's tangled OS atrategy has kept the trade Press husy for some time.
The second edition of Software,

aroused some of the fiercest loyalties in the business. At the same time it has attracted plenty of

Ironically, one of the problems that ICL has struggled with for some time is loyalty. Well-established users are so content with their familiar George 3, that they need a lot of persuasion to move to something larger and more up-to-

The sweeping changes made by the new managing director Robb Wilmot are bound to alter ICL's somewhat tired image. Notably, Wilmot announced that the comy's future growth would be led

Software revenues for ICL have jumped by 43%, a familiar pattern for the whole industry. And the

So hardware factories - a great sponge for capital – move further down the list of priorities, and software, something that ICL can make a great deal better than many hardware merchants, comes into ts own at last.

In the past, the job of those who have chosen to write software for the ICL market outside the company itself has been made more difficult by ICL's attitude, which appears often to have been unco-

know the technicalities, to he able to cater more efficiently for ICL

ICL's satellites report that there have been moves to fulfil the promises. Some have received forms on which they are invited to submit details of products to form a directory of ICL software.

If the ICL software vendora are what's in it for them rather than leaping to respond, they perhaps have good reason, given ICL's poor track record in the past on selling other people'a goods.



But the bad experiences usually teach the most valuable lessons ICL has certainly been the in the last year, and the result might be that it devotes its energy and resources to the things that given a chance, it could do real

aneously and was thus a truly gen-

operating system for the first time.
The machine, once an inanimate object capable of doing sums, took on a personality of its own:
Operators were addressed in

Coperators were addressed in code.

Rights, rather than in code.

"XSDC LDT WPR MT42" became "PLEASELOAD WPR ON UNIT 42", and "OXSDC;

HALTED ZZ" became "PAYROLL BROUGHT FOR-WARD MAINFILE TAPE FAILED - RESTART AT RUN

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- Faster Implementation

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It was at this point that many operators and users began what

operators and users began what can be best described as a love affair with George. Their careers and the operating system developed in parallel. George made mistakes which destroyed the idea of it being an impersonal overlord, and when the users made mistakes. George error messages had

But so good were the diagnostics (called post morterns, another personal touch) that bugs could be

store when performing the security dump. This meant that every two bours, all work in the machine

bours, all work in the machine room would come to a half for the 15-20 minutes required to complete the operation.

Mark seven was "improved" to only freeze the directories one at a time, as and when they work actually being written to tape. Only work in the frozen directories stopped, the rest of the workload continuing as normal, effectively temoving the two-hourly tea

the 1900 series may well have con-tributed to the decision. Barly releases of B fell over with a frequency that made the first

Checklist of ICL mathines and their operating systems:

On the subject of manuals, B know what you are looking up. The Cobol volumes, for example, are the last place to go for help on a

plest taaks, such as logging in, must have greatly increased the consumption of coffee among

From the operations viewpoint of what value is an operating system which cannot tell you which jobs are currently running, and gives no more detail than the job name on listings waiting to be

Users familiar with the informative plain English error messages of George were now confronted with messages such as ERROR 576886, which would then have to be looked up in a manual.

excels itself. There must be at least 50 of them, most of which are incomprehensible unless you already Cobol problem.

Practically any problem eacoun-tered with George 3 would be re-solved by reference to two manuals Operating Systems George 3/4, and George 8/4 Operations Man-

H, there are sites which say they have found B easy to use, but in the main these are first time users of operating systems who have little or no concention of how casy.

'Doomed to obscurity'

The reason usually given was that the machine was either too small and/or guilless to du justice to Sites where George has been in use for some time are more im-mune to the charms of B. It is B, but if an identical machine with a third of the mainstore can get come second nature and start again through the work using George, why bother with B at all? from scratch. There is always the The stock reply to this question "extra facilities."

use of two, three, or more macros

taining the word "ashurbanipal".

VME/B (for the sake of com-pleteness we will use the block structuring facilities):

NF(AFILE) PLF(AFILE, libraryname)

SVF(libraryname.AFILE)

First the George method:

IN PILE ASHURBANIPAL

INF("AFILÉ) ASHURBANIPAL

A simple example to illustrate this point. You are already logged in and wish to set up a fact cor-

George methodology at the back of your mind reminding you it was easier in the old days. There are surely many users who find that they do not actually need any extra facilities to do their Customers who are "delighted" at the performance of B usually work, so why are they there? A large number of the "extras" can forget that they have replaced an old, overloaded machine with a new one of at least twice the effective power as a result of the be explained by the fact that a task performed by George using one command has been broken down 2900 range utilising instruction pipeliniog and slave stores.

One wonders how much more into smaller chunks requiring the

delighted they would have been if they had simply upgraded the hardware and retained the old faid ful operating system. Even with a 2900 OCP microcoded to resemble a 1900 (with every fourth byte wasted), George will still perform in a most impressive man-

It is an oversimplification to say that George supporters are too besotted with old faithful to give VME/B a fair

The site where I has worked had two 2960s. One of 4.5 Mbytes running-VME/B, and a 1.5 Mbyte one running DME/G3. The smaller machine processed considerably more work than its larger brother, George's MOP response times were always better than VME/B's MAC, and the response times of the modest TP system run under B must be an over-simplification to often grew to the point where a political decision had to be made to either too stupid, or besotted with take all hatch and MAC work off in an attempt to improve the situa-tion. Why do you need an operar-ing system to run a single slot systems programmers whose job it

The third macro, PLACEPILE, is used to put the file into a library, ing the prime task of any operating which is strongly recommend SAVEFILE, could be expressed as of experts. VME/B suffered the "Mongol horde" approach -hundreds of coders wrote a few

is to look after it. They have so much fun playing with it, that they fail to notice that it is not perform-

The principal reason for people disliking VME/B is not its bulk, its still unimpressive performance on any but the largest 2900, or even the large number of very clever people it requires to keep it run-mag, it is this: Why the ICL not learn from the early mistakes made with George and put B on the mar-ket as a mature, stable product?

Operating system for the ME29

Operating system for the ME29. This machine, being a replacement for the 2503/4 range, rans with a 24 bit store width although the architecture is 32 bit, TMB itself could well be dubbed "Son of George 3". Simplified filestore and rather limited JCL facilities, some of which still do not appear to have been written. Again, rather slower

been written. Again, rather slower than it might be olthough this is

more a result of the hardware than

the operating system. Great

operating system for the first time

This is not an operating system.
It is an emulator enabling 1900 mode programs and operating systems to run on the 2900 range.
Byery fourth hyte is chopped,

effectively reducing the store width to 24 bits. DME and George

3 together performed too well for

their own good. Even with the in

creased instruction path length

and loss of 25% of the mainstore, they still showed VME/B and VME/K a clean pair of heels. Users could see few benefits, and

more inevitable, if not much ea

"Pather of VME/B".

In the early 70s George 3 freed operators for the first time from worrying about loading the wrong stationery or tape

Sequential ICL File Loader by CHC Software

> You can now load I.S. files fast - at least three times as Program ZUFO (Ultimate File Organiser) is designed to

Fast Indexed

load I.S. files from serial disc/tape or I.S. disc. You can instruct ZUFO to leave 'gaps' in the file between selected kays so that heavy group insertions do not force an early reorganisation. The parameters are very simple,

that the end result is a fully set up I.S. file, all indexes ara astablished but the file contains no data. This is very useful when only insertiums are made and the file i Initially empty.

Timings show that ZUFO takes less than one third of the time needed by XPJZ generated programs, even if they use

UK). This includes support and maintonance for as long as you use ZUFO. There are no so called 'recurring licence faas' or maintenanca chargas - evarl

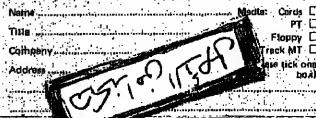
discounts ara availabla.

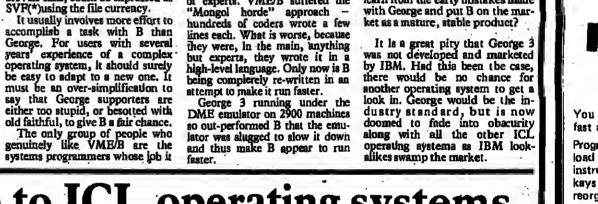
f you would like to try ZUFO then it is available for a frae, no obligation trial of 30 days. If you return it within 30 days than the trial is cancelled and you will remain free of obligation. If you do not raturn it within 30 days (plus an allowance for dalays in the post) then we will involce Company for £475 (plus VAT in the UK) and our payment terms ore 30 days nett. ZUFO is for ICL 2903/4, 1900, 2900DME and ME29.

TA CHARLES COULTAS CHC Software Marketing Limited
59 Warborough Avenue, Reading RG3 5LO

Please send program ZUFO plus documentation for our 30 day trial period. We will use ZUFO and try all the facilities free of obligation.
If we retain ZUFO beyond the 30 days then you may invoice us for £475 (plue VAT in UK) which is the purchase price including life long support and maintenance. There is nothing also to pay.
If we decide not to purchase 2UFO then we will return it within

s and wo will remain free of any obligation.





A guide to ICL operating systems

EXECUTIVE 0, 1, 2 & 3
24 bit architecture The numeric suffix denotes suitability for use on 29634 range. Increasing numbers indicate more facilities and program slot capability. These can justifably be called operating systems, having JCL and macro facilities, albeit rather limited.

EXECUTIVE 24 hit architecture On the 1900 series enables multiprogramming. Controls peri-pheral transfers and store allocation. No job control, speeling or as MANUAL EXEC. User programs run under total operator control. Not really an operating

GEORGE 1 & 2

24 bit architecture 1900 series simple operating systems. Split into input spooler, central module and output spooler, each of which runs as a "trusted" program under EXEC control. Programs can be run under operator control almul taneously. Limited macro and JCL facilities, and no filestore.

GEORGE 3 & 4

24 bit architecture Controls the resources of the en-tire machine. A cut-down EXEC provides autonomous peripheral handling, George controls the user service an activity. Code is pure, overhead which can leave smaller obviating the need to rewrite after 2900s, gasping for breath. Not system currently supplied for 2900 use. To the user, George 3 & 4 really suitable for anything smaller series. More of a marketing everappear almost identical, G4 run, than a 2966 – if you really want to clied than an operating system use all the latent power of B, you VMB/B by any other name.

1900 with more than 64K of mainstore although for useful JCL. Self-maintaining multi-level hierarchical filestore with auto-matic archiving and restore. Relia-ble and offers excellent performance on large 1900s and microcoded 2900s under DME/G3 or CME/G3. Many "go-faster" bolt-ons available from ICL and independent suppliers make this an operating system with a secure future, and many satisfied users see no urgency in converting to

cularly well thought out, and accuracy to cuculant. If you can afford to get a good team of technicians to build and maintain it, B will meet all your needs to the end of the century: If not, tread carefully, you may be better off with a cut-down version.

Small scale 2900 native mode

What does it all mean?

TME GEORGE

Direct Machine Environment Concurrent Machine Environment Transaction Mechine Environment /irruel Mechine Ravironmen GEneral ORGanisational Environment Information Processing Architecture IDMS Integrated Database Management System

native mode 2900 working. Weak Still has many advocates and devohandling - but good for small to rees. medium networks.

32 bit architecture VME 2900

many problems, in converting to native mode. ICL withdrew DME. The replacement, CME, allows both George and VME to run concurrently, sharing data and resources. Conversion is thus made. Entry level version of VME/B, Ranty level version of VME/B,
Rasy to set up and maintain with
reduced facilities. Also deceased.
VME/K and VME/B-E are now
merged with VME/B to form
VME2900, although ICL is less
than forthcoming with technical
details.

J LEVEL.
Operating system for the larger
System 4 machines (4-40, 4-50, 470). Batch oriented, communication control package an optional bolt-on for the supervisor. Facili-ties similar to those of George 2, but overall a more sophisticated system. Could well be dubbed

You can also give ZUFO the first and last keys that you require in a lile and let ZUFO divide the file space evenly

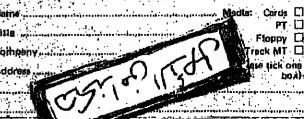
ZUFO is a free standing program. There is no awkward generation to parform - ZUFO is 'raady to go'.

The outright purchase price of ZUFO is £475 (plus VAT in

This price is the outright purchase price per site, multi-site

Tolaphone 0734-669561 Talex: 649966 CHCLTO G

the 30 days and there the matter will and. You will not then invoice



Why operators fell in love with George 3

by Andrew Thomas
THE fitst operating system worthy of the name was called GEneral ORGanisational Bruvironment 3. There had been supervisory software called operating sustain for the first time. sory software called operating systems for some time, but these were solely for running batch, interactive, or online work. George 3 provided all three modes simul-

eral purpose system.

George 2 was in general use by the late 60s, but the inflexibility of its macro system and the simple and fragile spooling mechanisms made it a rather restrictive artefact. Operators still had to load packs of over 10,000 cards every

time jobs such as poroll were run.

S."

Operators had been freed from and listings were rudimentary. It worrying about loading the wrong

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takes, George error messages had the personal touch.

die personal touch.

George frequently referred to himself as "1" and sometimes added a royal touch, as befits his full name, when reporting failure to find a later in a macro "WH CANNOT FIND LABEL ORNID."

When George was an immature operating system, system crashes were quite frequent. Security dumps of filestore were taken at a maximum of two-hourly intervals.

sonal touch) that bugs could be corrected rapidly, usually by the on-site team responsible for the operating system. Calls to ICL's help-line were the exception rather than the rule;

Because George was so helpful to his keepers, reliability, performance and the range of facilities supported grew steadily. Probably the only change that failed to find universal approval among operators was that between marks are said.

Prior to mark seven, George would freeze the entire online file-

breats.

While George was still falling over at fegular intervals. IGL was thinking about the successor to the 1900 and System 4 ranges, and what operating system should run on it.

The Great George Lave Affoir: Contented George 3 users surrounded by envious hordes. System 4, the old English Electric machine, had a reliable but unimaginative operating system known as J Level. Both of them have hourly intervala, were now done

It was not unusual to see the numbers associated with jobs, which are incremented by one for each successive job, in five figures. George now only failed on extremely rare occasions, and the reliability of the hardware was the main concern. system known as J Level. Both of them bore an array resemblance to the products of a major American manufacturer.

Those responsible for choosing the path along which to develop the new operating system had to make a decision—the stable J Level, or the promising but unreliable George 3. The coin was flipped and the die cast, System R

main concern. Then camer the launch of the 2900 series and the new operating system, now dubbed VME/B. would be based on the stable product. The fact that I Level used the industry standard 32 bit architecture, rather than the 24 bits of the 1900 series may well better.

Or could it?

EXEC GI/G2 G3/G4 VME/B VME/K VME2900 TME

Within a few years, George had versions of George 3 seem the epi- age improved out of all recognition to tome of reliability. Performance one operating system in the world. The mean time between failures the sheer bulk of the operating of the code and he sheer bulk of the operating of the code and he sheer bulk of the operating of the sheer bulk of the operating of the code in the sheer bulk of the operating of the code in the sheer bulk of the operating of the code in the sheer bulk of the operating of the code in the sheer bulk of the operating of the code in the sheer bulk of the operating of the code in the sheer bulk of the operating of the code in the sheer bulk of the operating of the code in the sheer bulk of the operating of the code in the sheer bulk of the operating of the code in the sheer bulk of the operating of the code in the sheer bulk of the operating of the code in the sheer bulk of the operating of the code in the sheer bulk of the operating of the code in the sheer bulk of the operating of the code in the sheer bulk of the operating of the code in the sheer bulk of the operating of the code in the sheer bulk of the operating of the code in the sheer bulk of the operating of the code in the sheer bulk of the operation of the code in the c

As to the easy-to-use claims of

· VME/B 2900 native mode operating system, early versions of which were plagued with reliability and performance problems. There is still plenty of room for improvement in both press. Versions of programs, known as object programs. Operating system tasks are split into Chapters, dedicated in both areas. Vast array of to simple tasks and beld on last facilities, a number of which most contributions. backing store, brought into users will never require, contrimainstore as and when required to butes to a large operating system. service an activity, Code is pure, overhead which can leave smaller

COMPUTER WEEKLY, January 14, 1982

ROUND UP

Recent software events you may ■ Disc and tage manufacturer

Memorex took another leap into software production and supply with the announcement of some attlity products. The company broke off its agreement with Pittsburg systems house Doquesne in layour of its town products which include remote printing tool MRXPRINT, the fast dump-restore MRXDASM, and an add-on for the Westinghouse Fast Dump Restore package colled MRXFASTR.

■ The BBC rait a successful expegramme Tomorrow's World, in which a Basic program was ceived and ran the program - a simple print mutine - on Apple II and Sinclair ZX81 machines. The experiment payes the way for wide-scale telesoftware publishing as a method of distribution to

picces of financial modelling soft-ware, FCS, made its appearance in a portable form which allows the

XEMIX

LOCICA PROVIDES

Ala sensible price with sull installer to the pri

micru or mainframe. Supplied by EPS Consultants, it is planned to made a cautious move towards appear un the Unix and CP/M distributed database with the sn-

A report from Strategic Ine predicted that revenues from database and DBMS-related products would grow 16-fold in this decode. The report also pointed out that the traditional market share en-inyed by giants like Clucom, Cul-linane and IBM would probably be reduced because of the tack of relatiunal tools in their ranges.

■ British software vendors were warned of the threat presented by Japanese software by Dsvid Fair-bairn, director of the National Computing Centre. He was speaking at Software Information International, an event which gave European and US software vendors a chance to exidbit their pro-

■ The software spin-off of British Leyland, BL Systems, launched the system which was behind the Mini Metro and the Triumph Acclaim. Called Famia, it deals with every aspect of the automated factories over 300% on the previous

micro operating systems during nouncement of its Datacom D/Net the first part of this year.

product. ADR is also trying tu provide a future growth path for users who are ulready committed to o variety of products. A tool developed by the University of Stockholm for the prom-typing of systems was launched by design specialist Savant Enter-prises. The tool, CS/4, is billed as a software equivalent of the tech-niques used in contents addressing

Major British software house, CAP turned in a loss of £1,274,000. The figure was attri-buted to the write-off of monies used to develop MicroCobol, now. licensed off to Microproducts as a separate group, and a series of write-offa an former mainframe pmducts. The company is being refinanced by British Technology Group and Charterhouse with £2.1

UNIX VERSION 7

SOFTSELL

How to identify the real relational database systems

ers of database management systems (DBMS) have eagerly been announcing "relational" pm-ducts. However, most of these have very little that is relational sbout them: this article sets out to describe what reol relational systems are and why they are important.
With the development of soft-

with the development of soft-ware technology, the notion of a DBMS appears to be slowly ex-panding to include more capabili-ties. Today, the buyer will buy two things:

A mechanism for the atorage, retrieval and manipulation of data

retrieval and manipulation of dats. This may be rather rudimentary, such as simple indexed files, or may offer further facilities such as the sbility to change data

OPERATING

programs (than hidependence), or the ability to associate one type of ilata with unother (data relatability). ISAM and VSAM products are at the simpler end of the spectrain, us upposed to full-blown DBMS such us Total, IMS, DL/1, IDMS, MDBS and Adabas at the

A scrics of anftware development utilities designed tu make program intplementation cu-sier. These include VDU "fill-inthe-blanks" screen definition, duta entry and query systems, report writers, and clute dictiunaries. Simply put, a relational DBMS

is one in which the data is represented as a series of separate twodimensional tables, more or less corresponding to utilinary tables. The data cun be manipulated in various ways, and in particular, data from a number of different tables can be mude to uppeur us if it comes from one single table. This capability is known us a join, and any DBMS out supporting one ahould not be culled clational.

E. F. Codil first defined relational database systems in a 1970 paper, and purists will say that to se rational, the DBMS imist satisfy the criteria Codd laid down. This, however, seems too strong.

Codd's work provides a particular type of data hamiling mechanism, one that is simple and has especially high degrees of stata in-dependence and relatability. Data models coming close to Gold's definition, and enjoying its bene-fits, deserve to be called relational. What makes a dutabase relation

There are few commercially available systems that are decent candidates

ial is that date is presented abstractly, with much mure data independence, and less data
redundancy than in other DHMS. Fine as marketing goes, but its
architectures such as the network,
hierarchical

architectures such as the network, hierarchies!, or inverted approaches. The join is the key to these additional capabilities.

A relational join is a powerful way of relating different types of data. It provides the ability to make a number of different data tables appear to be a single rable. tables appear to be a single table, without actually creating e new table. In other words, the juin may be used to create virtual tables from a number of actual data

This means that the task of manipulating data — whether for example in a Cobol program or by the facts are that it is difficulty means of a time high program or by means of some high-level query language — is much simpler. The user only thinks about one table, although in fact the data may be being drawn from a number of tables.

It also means that redundant data does not proliferate and that it is possible to alter the underlying database structure radically, with minimal impact on the existing body of processes this existing pody of programs using the data-

The benefits of the tarst point are obvious. De managers familiar toutfolio of integrated programs offer, and because supported with the leadeches of managing a cause relational DBMS has also cause for the large two.

To illustrate the degree of data independence that can be achieved with a relational pyratem, sometimes with a relational pyratem, sometimes when would happen if companies gibby sells you about his telepool and programs of the programs of the program of



Ferris is a consultant in the UK at US providing marketing ed planning advice to compute teen Partisularly in the area of softon.

then he changed so that the tole tuble contains the decided pic the unit price in the product wh nuw the suggested price. To most database systems, this well built using the customer order formutinn would have tak changed.

With a relational DBMS this not so, because the database ales nistrator can simply redefine it customer inquiry view so that takes the price from the orderale instead of the product table. In short, it is possible to dep-the underlying database space.

in a major way, and by using the witt function redefine date ren so that there is minimal impacts: the investment in software.

A lot of interest has been goveated in relational systems bear of their power, and a few votes are offering such products However, for various tesses !number of fitting are offering per thicts which really to not be public of a relational flavour them. I ampret the reasons for is

fall into two camps.

Firstly, many of them seems think that by offering far far support, together with an ideal tary cross-indexing scheme, for are providing something complete transport. This is parently first transport. such facilities do not have anything . like the data indrivendence oper lities of a relational join, not & they result in equivalent simples

buyer.
If should be emphasised in many of these would be related by aleins are excellent, despite it. fact that they are not really relie nal. They often have willig programs which speed up shired development and maintenance in inendously. Examples of such rewidely differing environments ADR with Datacumm in the man frame world, Heory with Into in

produce a real relational sy partly for performance resid and partly because the algorithm There are consequently few conmercially available systems that at decent candidates for the three

Some are 1BM's pending sel-ware product SQL/DS, Relational Software's Oracle, Relational Technology's Ingres, and - in the uture, if all goes according to the Computer Resources Ris

What ICL's mainframe customers can expect over the next decade

VME/K operating system, managing director Robb Wilmot explained the need to slim down Users Association chairman and Architecture) lacilities, the company has pulled off a considerable coup in linking System 10s to an IBM 370 at Prudential Insurance by emulating IBM's transport systems software by pointing out that the company supported no less than 30 operating systems.

Of course ICL is not alone

Osers Association chairman and bread of Duport Computer Services. "It is something that ICL has got to face."

ICL is doing its best at the mo-

among mainframe manufacturers in having to devote a great deal of resources to maintaining operating systems that it would rather do systems can be run side-by-side, away with. Users are bound to with either the B or 2900 version want to protect their spplications on top. The company has also prosoftware investment for as long as possible. So what can those users, form-

ing a large group of ICL mainframe customers, who continue to run what is known in the trade as blue on orange (1900 operating systems on 2900 machines running under the Diatributed Machine Environment) agreement and the access of files held on IDMS databases and other files, Querymaster is a command language designed for report production and the access of files held on IDMS databases and other files, Querymaster is a command language designed for report production and the access of files held on IDMS databases and other files, Querymaster is a command language.

decade?
ICL's director of commercial services, Peter Simpson, assured users in November that DME would not be axed. He pointed out that an absence of further development on older regimes did to ICL's Data Dictionary

that these regimes, whose users are an ever-diminishing number, will persist beyond the 2966...
"Our strategy is to sell to DME users the benefits of starting all new developments on VME 2900,

and, at the same time, provide CME capabilities to run old work on current mainframes and on the next range of 1984 timeframe producta, and we have commitments to support CME capability beyond 1990."

Getting from DME to VME may pose a problem for 2960 users though. "The CME is only available on 2966s, but there is a big full IPA (Information Processing

has got to face."

ICL is doing its best at the moment m push VME 2900, which is f not significantly different from B VME/B. The two operating facilities, which can be "switched on" using the "golden pliers" technique (that is after they have been installed), but it is best looked at as a set of standard systems can be run side-by-side, duced three systems products to go with VME 2900 - Reportmaster, Querymaster and Personal Data

System (PDS). Reportmaster is designed for reunder the Distributed Machine
Environment) expect over the next
decade?

mand language designed for the
naive user, while the PDS product
is a self-contained information handling system for the manipula-tion of local dats by untrained users. A TME version of PDS is

systems.
"On the contrary," he declared,
"ICL has, uniquely among computer companies, introduced CMB
Concurrent Machine EnvironConcurrent Machine EnvironThere is bound to be some recontrol to the contract of the contra not amount to axing operating System, which is designed to insystems.

System, which is designed to interface with IDMS, the Cullinane

(Concurrent Macbine Brytonment) as the concurrent environment; George 3 and DME 3 will
continue to be supported via CME
on current and future products.

"System 4 (J and Multijob) will
have continued support on 2966
via CME but we think it unlikely
that these regimes, whose users are
an ever-diminishing number, will
persist beyond the 2966....

ICL has also been putting great emphasis on the networked pro-

duct approach.
The Network Processor System deliveries are due to start in April this year, can be used to share date traffic between up to four local mainframes. Data from up to 256 communications lines cen be routed to the appropriate

Although ICL was behind with

Where the company's software is produced

velopment division run by Chris on communications controllers, French. Activities include the validation and release of VME mainframe systems development operating systems; the development of "superstructure pro-ducts" like IDMS and TPMS; the a hardware site, West Gorton production of upgrades for com-mon routines and facilities such as velopment of rsage standard com-pliers (ICL is currently working on compilers that will run under any operating system); control systems for the DRS 20 and System 25; work on the ME29 operating aystem - TME; development of IPA links for small systems plus work on Perq, CAFS and DAP.

Dalkeith: This site is also part of the distributions of the distribution of the distrib the distributed systems development division and is particu-larly concerned with work on terminal software, especially for point-of-sale systems and System 25. Software for testing Perq hardware which is due to be manufactured by ICL is also being developed here, as well as additions to the version of the DMB operating system written for System

Bracknell, Berks: The main soft-ware centre in the UK and home of the distributed systems de-the distributed systems de-also the main site for VME/B work

West Gorton: Although primarily

Letebworth Development Centre: Traditionally this site bas concentrated on what are known as special products. Work or microprogramming and terminal executives is currently being un-dertaken at Letchworth.

Reading, Barkst Reading is the bome of Dataskil, which has now been grafted back onto the main ICL operation. Rechristened the cations Systems and Service Division and manned by half the rentaining staff of Dataskil, the new operation is charged with reorganising ICL's range of appli-cation software, wriding new pack-ages and liaising with third party

organisations.

Slough, Berks: Here the muchemphasised ICL octwork approach is, being hatched. Development work on local area networks and IPA is being carried on Kidsgrove: The main site for the velopment work on development of VMB 2900 (the works and IPA is to operating system that replaces or at the Slough site.



PEAKE ... "IPA concentrated ICL's mind on the structure of software packages.

Peake also said that the effort of producing IPA concentrated ICL's mind on the structure of its software packages, particularly

"IPA is being released in phssca. We are now up to 2.2," said Gordon Peake, mansger of IPA. "It will give cheaper access to eleprocessing monitors.

Over the next five years ICL will have to make a massive effort to produce software for machines like DRS-20, System 25, Perq, the more systems and make it easier to introduce new software into IBM-compatible Fujitsu machinea existing set up." and its network products

protocols that are gradually emerg-ing as new ICL products are re-

Apart from systems so far announced, the company also has plans to acquire a wordprocessor espable of protocol conversion, advanced multiplexing and network

The Application Systems Deve-dopment Division will, over the coming years, have to produce

software for no less than five small

At the sharp end, customer engineers could also come under similar pressure — ICL bas not invested in the type of remote diagnostic systems, or phone-in maintenance centres that the likes of IBM, Digital Equipment and

You make it work. We make it work harder.

Manitar response times in realtime l

Now you can lack at IMS respanse times online with our unique Respanse Time Option (RTO). Available as an Asynchranaua Services feo ture to our CONTROLIMS REALTIME product, RTO is the lirst and anly saftwore to al that late your instantly and continuously manifor response timas for any tronsaction, class, region or user in your castly IMS environment. RTO is the latest development in our effort ta contral and manage IBM's resource-hungry IMS universe. It's ane of mony ways our software makes your IBM system work harder and puts the results an your bottom line

Pinpaini IMS problems online,

CONTROL/IMS REALTIME gives yau an immediate laok inta majdr problem areas in IMS operations through Interactive diagnosis and botexcessive IMS DB/DC activity at the master terminal with the Asynchronous Service's outamatic manitaring al 70 key performance indicators and mare than 20 aperational displays. The aperator is automatically watned when predetermined thresh-alds are exceeded, so the MTO arsystem programmer can fix problems before they drostically degrade user: service levels.

The anly IMS praducts that give yau latal cantral.

IBM's Information Management System lets you process great valumes of work, yet its complexity makes it very difficult to control, CONTROL! IMS pravides perfarmance evaluation, planning, forecasting, and financial management based an actual transaction values, instead of averaged values. And you get vast improvements on the quality of information. Our easy to understand CONTROL/IMS cost accounting routines help you to identify excessive IMS users as well os providing accurate user charge-bocks of the tronsoction level.

CONTROL/IMS will help you run yaur IMS system better without changing one line of IBM cade.

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PANTON . . . "Robb Wilmot will not get many software houses writing packages for him."

ICL 'more willing' to work with third party suppliers

THERE are between 400 and 500 companies selling products and services to ICL users. They range from one-man programming may, if they wish, add their own outfirs to bureaux with interna-

Early on in ICL's process of reorganisation, company directors made it clear that they planoed to use these pilot fish as a means to boost hardware sales, particularly in the oew small machine markets that the company had set its sights

"We intend very quickly to set to be operated on ICL hardware and using ICL supporting serup wide-spread arrangements to extend the method of marketing our systems, by increasing the number of channels through which we will aupply them," said Ninian Badie, director of the product mar-keting division. An briefing on the eve of the Sicob exhibition in Paris

"First we include systems How far has ICL moved towards this new deal and what is the re-

software, or software developed by other independent organisations. They may wish to provide additional hardware or supply their

own maiotenance and support ser-ICL declared that it expected Trader Puint to account for 25% of He added: "Secondly, we inall small system sales by the end of clude software houses. Their role is to provide application-based its first year of operation and tn ness solutions for customers, network of trade sales outlets.

"Thirdly we include service bureaux and especially network service bureaux who are taking the opportunity to develop existing

Point deals, although CAP, Logica and AIM are said to be close to coming to some agreement. The Computer Services Association, under the guidance of Jim Feeney, managing director of the Hoskyns Group, has been a prime target for

Although Feeney said there had been no "mass algn-ins" by CSA members, he talked of a "very high level of interest" ereated hy a

essentially a replacement for ear-

operation, based on the systems

range of multi-user systems ond the System 25 mini.

many outsiders have struck Trader

has been a prime target for

louse trading scheme.

number of enterest" ereated by a number of changes in the way that ICL viewed third party suppliers.

"The difference is utilitudinal, underlined by the disappearance of Dataskii as a direct competitor to us," he said. "ICL is far more willing to work with the service industry than in the past."

There is, however, one stumbling block block between it is the way.

There is, however, one stum-bling block that has still to be overcome, the questiun of compe-tition between ICL salespeople and systems houses who have hought ICL kit on an OEM hasis.
"We are hopeful that ICL will solve thia," said CSA director general Doug Byelons. "There has to be an agreement on this ralle

be an agreement on who sells where and to whom. It could be done on a product, industry or seographical basis, but there has to be an agreement."

At present there is certainly an public commitment by ICL to prevent its salesforce from selling in competition with systems and software houses, or to remove reatrictions on OEMs that prevent

trictions on OEMs that prevent them from selling upgrades to existing ICL eustomers.
"It makes life difficult," said David Ball of GDB Computer Ser-vices, which specialises in bolt-on systems software for ICL main-frames.

Ball was also critical of presentations made to systems houses in-terested in the Trader Point scheme. He elaimed that ICL was unable to tell potential OHMs what their margins would be, could give no case histories that might be used to sell the system, or, alternatively, since it was a machine new to this country, give examples of how the system roles have the system roles.

Although a few third party appliers were as openly critical as fiall, most adopted a wait-and-see

"The company has got to make up its mind whether it wants to license outsiders to sell products, or to compete with them," said John Gandley, founder of Gandleke Computer Sandors

John Gandley, founder of Gandake Computer Services.

One notable collaborative
scheme ICL has got under way
since the Autumn is with the
Science and Engineering Research
Council, the organisation charged
with funding and organising university research, as well as providing computer facilities for universities and government research
establishments.

A joint ICLISERC software de velopment team has been set up been \$1, the Rutherford about Chemick is part of a fine of government isborato us near Didon in Bertablic

scientific and engineering works-tion, scheduled for completion g lier efforts at system house cothe beginning of this year.

It will allow the use on Pero of existing Fortran, Basic and Lie compilers and utilities and applications software already running m-der Unix on other manufacturer

have established an international Other Perq softwaredechipment teams have been set up The hardware that ICL has carwithin ICL and at Three River marked for the seheme includes Corp, the US company that designed Pero and sold it to ICL.
The SERC connection could the Perq scientific and engineering graphies workstation, the DRS

well prove a incrative one for ICL. If the machine and software de-At the marient, ICI, will not comment officially on exactly how veloped for it is adopted a san-dard issue for this country's re-search establishments, then the company could shift thousands hoxes over the next few years.

However, nther outlets may prove innre difficult to establish, fi David Ball is to be believed. He maintains that ut £25,000 the Perq is too expensive for systems house.

> ICL's VME teleyprocessing monitor is generally reckoned to provide tough competition for third party suppliers

This negative view was backet up hy une of the more flambayan operators in the ICI. systems so ware field -- Bernard l'anton, boss of Oxford-based Telecomputing

"I'don't think Rubb Wilmor wi get many software houses writing packages for him," said Panton. "We have been approached about a catalogue nl' applications sol-ware that ICL, is building, but upart from that we have not been involved with the company in my discussions

ICL's VMR teleprocessing mentur - TPMS - is generally reckoned to provide tough competition for the third party supplies.

Nonetheless, teleprocessing remains a weak point in ICL's system software. In basic terms, the problem is that the routless which govern the interaction between a terminal and a host, including security and recognition. cluding security and recovery procedures, were not completely separated from the application

This means that teleprocessing software has to be saided to see individual application program.

Mick Punter, whose company Zeus-Hermes sells the Cortez monitor, maintains that outside tions to the teleptocessing prob-lem. "Take TME Ti? on the ME29, it is nowhere near what you can get from outside suppliers," he

Maintaining and "tweaking George operating systems mainly George 2 and George 3 - it another long established activity of third party suppliers. The Gand vices and George 3 Programming

has been at it since 1971. Another problem that Gandiske will have to come to terms with according to Gandley, are changed taking place in the structure of ICL, operating systems. Gandley, maintains that it is becoming progressively difficult to bolt extra sressively difficult to boil the activate onto operating systems, because interface facilities are being hidden away from the user.

Despite these clouds on the horizon. Gendlate companies some to be getting on well with ICL.



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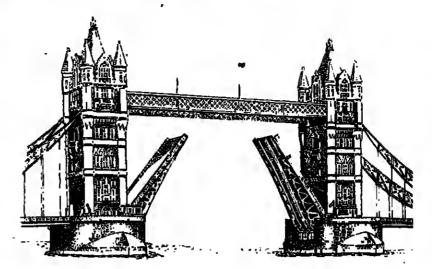
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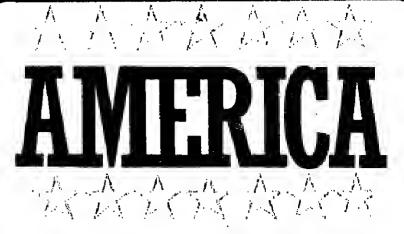
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software, including device drivers, emulatore, etc. Opportunities will include work on wide aree networks like PSS and multi-access systems or, alternatively, Cambridga Ring, Etharnet and Broed Bend local networks. Applicanta must naturally be willing to be mobile, in keeping with consultancy work, and have the eppropriate background. This will be in creas of real-time apparating systems, e.g., RMX/80, RSX 11M and real-time lenguages such as CORAL 56, RTL/2 and PASCAL. Some exposure to implementation of high level protocols and transport services will be very useful. This could be your chance to move up a notch in the communications consultancy field.

[CW19/D]

IBM Development/Financial **Applications**

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to c.£12,000 + generous package

Modus le in the process of recruiting several individuels to play key roles within a newly pisnned departmental structure. This has not, however, been finalised and levery much dependent on the callbre of candidates recruited, but positions exist for programmers end analysts et all levels, including e Database Administrator Anelysts should have a knowledge of top-down structured techniques, prefarrably with en IMS db background. Programmers should be fluent in COBOL, using modular, afructured techniques. Again a knowledge of IMS db would be advantageous

Generally, an understanding of any of the packages in use would be an edded bonus and these include: VM/370 Virtual Mechina Environment, OS/VSI operating system, IMS datebase, CMS, SPF, Metacobol and Easytrieve etc. Compatitive salaries supported by an excellent peckage, including e 5% subsidised mortgage in most instances, must be very tempting.

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Applicants must have a minimum of two years experience, preferably from a software decision and decision and

software design and development environment. High-level languages are essentiel, perticularly the more structured and portable variaty, and if this expariance is supported or ancompassed by a communications background so much the batter. One vacancy exists for a 'network guru' where the appointed will be accloimed as one of the leading lights in the project team.

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must be willing to travel.

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CW19/III

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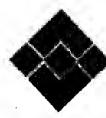
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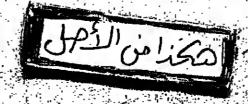
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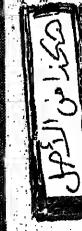
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SALES BIT

Overcoming sales resistant

approach to

my dissertation on the many round, simpost to the posed to a side sales people for overcoming sales "objections", i have included two more categories of rebutted and a summers of thoughts on the inframental set. mary of thoughts on the whole process of overcoming sales "objections". Postponement: Sometimes

u sales "objection" is raised gained from ones, of sales "objects" of sales "objects" of an improvime moment. To respond immediately accompanied by may destroy the continuity of sales presentation. On the other hand, the question out be limited at wered at a later stage in a should, preferable demonstration, or perhaps the answer will be more clearly understood by virtue of the information that is to follow. In such circum-stances, it its reasonable, start you off one, with the buyer's approval, established a bar-to put the answer into abe-

flowever, such delaying from your own to tactice can lead to problems We're not published. if allowed to go too lar. Olten the buyer will start to . We have too worry plant whether his worry about whether his problemities question has been forgotten fixellessing and, in doing so, will be- The union & come distracted from the enstring dialogue.

This serves both to reduce the impact of the presents. • Our existing tion and dilute the credibilliy of the frame benefits . We will bet Su, if the justinged answer to a previous question has to We don't but be delayed, keep telling the buyer that his question has nd been largeaters.

The cardinal ain is to leave without ever providing . Your system the punished answer.

Comparison: The best way to oliset a sales "objection" is to catt upon examples that have the effect of "anh-contracting" he responsibility for refuting it to a third party while at the same time unitraducing an element of implied Im-partiality. On the other hand, the comparison could be made by citing a parallel example from the buyer's

own experience. "I recall Mr Williams of Burion Textiles ruising the do bear in mind the same question when we first the absolute he There has never been a hint gate the ditt of such a problem since they

installed it is months ago."
"Of course there will be installation problems, there always are. Look at the troubles you had when I installed your first compu-ter, but look at all she bene-

No selling situation exists of they are in the in they are in the area from a served as a served as a served are in the area from a served are area from a served as a served are area from a served as a served are area. and cannot be evaded. In every circumstance, they should be seen for what they really are - demands for information that typically

imply interest in the sales proposition. The effective tree of rebuttal techniques has a number
of positive objectives!
To answer both welld and
invalid questions.

invalid elections.

To alley any fears in the mind of the buyer.

To each ance the relationship between the set only established and the buyer.

To pose the way to the same addo not be seen the one with th

follow them mis

We've ben be

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W'c're poliate

• Clue tequine Your system se

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Of course, see "ubjections" # overcome the of

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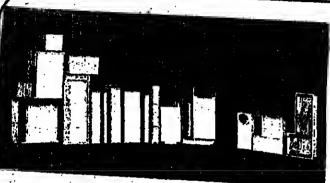
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